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CLAIMS

[Claim(s)]
[Claim 1] The radio communications system characterized by transmitting a part of aforementioned attribute to the terminal of a destination side, and managing the quantity or the maintenance period of the aforementioned data at the terminal of a destination side based on a part of aforementioned attribute in case it saves temporarily for a storage means by which the information which shows the attribute of the data supplied from the terminal of an origination side and these data was established by the communication network.
[Claim 2] The aforementioned attribute is a radio communications system according to claim 1 characterized by being the arrival-of-the-mail time of the aforementioned data, and addresser discernment data.
[Claim 3] The aforementioned terminal is a radio communications system according to claim 1 characterized by emitting warning when the quantity of the aforementioned data reaches a predetermined value, or when the maintenance period of the aforementioned data reaches in a maintenance term.
[Claim 4] The terminal which is carried by the user and communicates with other terminals through a predetermined communication line, While notifying the purport that data were received to the terminal of the partner by whom these data should be transmitted whenever it has a storage means to save temporarily the information which shows the attribute of the data transmitted from the aforementioned terminal, and these data and receives data from the aforementioned terminal The communication line management tool which transmits a part of aforementioned attribute is provided. the aforementioned terminal The radio communications system characterized by holding a part of aforementioned attribute and managing the quantity or the maintenance period of the aforementioned data based on a part of this attribute if the purport that data were received from the aforementioned communication line management tool is notified.
[Claim 5] The aforementioned terminal is a radio communications system according to claim 4 characterized by emitting warning when the quantity of the data saved for the aforementioned storage means reaches a predetermined value based on a part of aforementioned attribute, or when the maintenance period of the aforementioned data reaches in a maintenance term.
[Claim 6] The aforementioned attribute is a radio communications system according to claim 4 or 5 characterized by being the arrival-of-the-mail time of the aforementioned data, and addresser discernment data.
[Claim 7] The aforementioned data are a radio communications system the claim 4 characterized by being voice data, or given in six.
[Claim 8] The aforementioned terminal is a radio communications system according to claim 4 characterized by having a display means to display a part of aforementioned attribute saved whenever the purport that data were received from the aforementioned communication line management tool was notified for every data.
[Claim 9] The aforementioned display means is a radio communications system according to claim 8

with which a maintenance period is characterized by displaying a predetermined mark that that can discriminate to a user among [some] the aforementioned attributes to display at the attribute over the data which have reached in the maintenance term.
[Claim 10] The aforementioned communication line management tool is a radio communications system according to claim 4 characterized by securing the communication path of the terminal of an origination side, and the terminal of a destination side, and making a telephone call possible, without saving the information which shows a part of aforementioned attribute when the terminal of a destination side answers to dispatch of a terminal.
[Claim 11] The terminal which is characterized by providing the following and which is carried by the user and communicates with other terminals through a predetermined communication line. A terminal transceiver means to transmit and receive data between the aforementioned communication lines. An attribute storage means to hold a part of attribute of the aforementioned data supplied from a communication line through the aforementioned terminal transceiver means whenever data are sent from other terminals. The management tool which emits warning when the quantity or the maintenance period of the aforementioned data is managed and the quantity of the aforementioned data reaches a predetermined value based on a part of aforementioned attribute held at the aforementioned attribute storage means, or when the maintenance period of the aforementioned data reaches in a maintenance term. A display means to display the warning from the aforementioned management tool while giving a list indication of a part of aforementioned attribute memorized by the aforementioned attribute storage means.
[Claim 12] The aforementioned attribute is a radio Personal Digital Assistant according to claim 11 characterized by being the arrival-of-the-mail time of the aforementioned data, and addresser discernment data.
[Claim 13] The aforementioned data are the claim 11 characterized by being voice data, or a radio Personal Digital Assistant given in 12.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] this invention relates to the radio communications system and radio Personal Digital Assistant which deliver and receive information through the telephone line with terminals, such as a PHS terminal.
[0002]
[Description of the Prior Art] In recent years, as a terminal in a radio communications system, it is carried by the user and other terminals containing common domestic telephone and the radio Personal Digital Assistants (for example, a portable telephone, a PHS terminal-ersonal Handy Phone System terminal, PDA:Personal Digital Assistant, etc.) which communicate voice and data mutually are known. These radio Personal Digital Assistants are driven with a rechargeable battery so that it can be used, after carrying, and they can accumulate now various data, such as the telephone number of the partner point, and a memorandum with an address book, a schedule, and a character and voice. This radio Personal Digital Assistant can communicate with other terminals similarly connected to the communication network by radio through the base transceiver station after communicating with other terminals or connecting with the public line which is a communication network directly through the base transceiver station arranged at the predetermined intervals by the communication network laid by the wide range area. The above-mentioned base transceiver station is a repeater which delivers and receives information and establishes the communication path between a radio Personal Digital Assistant and a communication network by the radio Personal Digital Assistant and radio.
[0003] In the radio communications system mentioned above, the mail BOX which accumulates voice mail (voice data) in the database which the service Administration Bureau connected to the communication network has is formed, according to the demand from a PHS terminal, the above-mentioned voice mail is saved or the service supplied to a user is offered. However, since a physical limitation is in the capacity of a database, it is impossible to accumulate all all users' voice mail as a matter of fact. Then, in the present condition, if it maintains for every fixed period and there are no special directions (extended directions of a maintenance period), after receiving, it is carrying out eliminating automatically what carried out predetermined period (for example, one month) progress etc.
[0004]
[Problem(s) to be Solved by the Invention] By the way, in the conventional radio communications system and conventional radio Personal Digital Assistant which were mentioned above, since all of information about voice mail, such as the number of voice mail (existence is also included), and the content, attribute information (a partner, sending-and-receiving time, sheep of a check / finishing), were managed by the communication network side (service Administration Bureau), it had the following problems.
(b) Since it will be automatically eliminated from an old thing if a fixed period passes, there was a problem that voice mail [being unread (what is not heard yet)] will also be eliminated.
(b) moreover, since the number of the voice mail saved also had a limit, even if it was newly going to

save that until [limit full] preservation was carried out at not knowing, there was a problem that it will be refused, about it
(c) Although what is necessary is just to have checked the maintenance term of voice mail, telephoning a communication network periodically in order to have solved the above-mentioned problem, in order to have checked the information (the content is also included) about voice mail, while it had to check to whenever [the] to the communication network, having had to telephone and it took time and effort very much, there was a problem that possibility of forgetting a check was large.
(d) Moreover, in the conventional radio Personal Digital Assistant, it had only the dialing key for inputting the telephone number fundamentally as an input means, but since the command for using voice mail service only by this dialing key had to be generated, there was a problem that sending-and-receiving operation of voice mail, overhead operation, situation check operation of Mail BOX, etc. became very troublesome.
[0005] Then, this invention aims at offering the radio communications system and radio Personal Digital Assistant which can use voice mail service effectively while it can simplify operation of a user.
[0006]
[Means for Solving the Problem] In case the radio communications system according to invention according to claim 1 for the above-mentioned purpose achievement is temporarily saved for a storage means by which the information which shows the attribute of the data supplied from the terminal of an origination side and these data was established by the communication network, it transmits a part of aforementioned attribute to the terminal of a destination side, and is characterized by managing the quantity or the maintenance period of the aforementioned data at the terminal of a destination side based on a part of aforementioned attribute.
[0007] Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 2 publication as a desirable mode. Moreover, when [according to claim 3] the quantity of the aforementioned data reaches a predetermined value, or when the maintenance period of the aforementioned data reaches in a maintenance term, you may make it the aforementioned terminal emit warning like as a desirable mode, for example.
[0008] Moreover, the radio communications system by invention according to claim 4 The terminal which is carried by the user and communicates with other terminals through a predetermined communication line, While notifying the purport that data were received to the terminal of the partner by whom these data should be transmitted whenever it has a storage means to save temporarily the information which shows the attribute of the data transmitted from the aforementioned terminal, and these data and receives data from the aforementioned terminal The communication line management tool which transmits a part of aforementioned attribute is provided, the aforementioned terminal will hold a part of aforementioned attribute, if the purport that data were received from the aforementioned communication line management tool is notified, and based on a part of this attribute, it is characterized by managing the quantity or the maintenance period of the aforementioned data. Moreover, when the quantity of the data saved for the aforementioned storage means like based on a part of aforementioned attribute according to claim 5 reaches a predetermined value, or when the maintenance period of the aforementioned data reaches in a maintenance term, you may make it the aforementioned terminal emit warning as a desirable mode, for example.
[0009] Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 6 publication as a desirable mode. Moreover, the aforementioned data may be voice data like for example, claim 7 publication as a desirable mode. Moreover, you may make it the aforementioned terminal equipped with a display means to display a part of aforementioned attribute saved whenever the purport according to claim 8 that data were received from the aforementioned communication line management tool was notified like, for example for every data, as a desirable mode.
[0010] Moreover, you may make it, as for the aforementioned display means, that display at a user that a predetermined mark is discriminable as a desirable mode on the attribute over the data with which the

maintenance period has reached in the maintenance term, for example among [some / according to claim 9] the aforementioned attributes displayed like. Moreover, as a desirable mode, without saving the information which shows a part of aforementioned attribute like, for example, when [according to claim 10] the terminal of a destination side answers to dispatch of a terminal, the aforementioned communication line management tool secures the communication path of the terminal of an origination side, and the terminal of a destination side, and may be made to make a telephone call possible.
[0011] Moreover, the radio Personal Digital Assistant by invention according to claim 11 A terminal transceiver means to be the terminal which is carried by the user and communicates with other terminals through a predetermined communication line, and to transmit and receive data between the aforementioned communication lines, An attribute storage means to hold a part of attribute of the aforementioned data supplied from a communication line through the aforementioned terminal transceiver means whenever data are sent from other terminals, Based on a part of aforementioned attribute held at the aforementioned attribute storage means, the quantity or the maintenance period of the aforementioned data is managed. When the quantity of the aforementioned data reaches a predetermined value, or when the maintenance period of the aforementioned data reaches in a maintenance term It is characterized by providing the management tool which emits warning, and a display means to display the warning from the aforementioned management tool while giving a list indication of a part of aforementioned attribute memorized by the aforementioned attribute storage means. Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 12 publication as a desirable mode. Moreover, the aforementioned data may be voice data like for example, claim 13 publication as a desirable mode.
[0012]
[Function] In this invention, in case it saves temporarily for a storage means by which the information which shows the attribute of the data supplied from the terminal of an origination side and these data was established by the communication network, a part of attribute is transmitted to the terminal of a destination side, and the quantity or the maintenance period of the above-mentioned data is managed at the terminal of a destination side based on a part of this attribute. A terminal emits warning, when the quantity of the above-mentioned data reaches a predetermined value, or when the maintenance period of data reaches in a maintenance term. Therefore, since data can be managed based on a part of attribute held to the terminal side, without connecting a circuit to a communication network one by one for an inquiry, while being able to simplify operation of a user, it becomes possible to use voice mail service effectively.
[0013]
[Example] Hereafter, the example of this invention is explained with reference to a drawing. this example explains the example applied to the PHS terminal.
A. The block diagram 1 of the composition A-1. radio communications system of an example is a block diagram showing the composition of radio communications systems, such as a PHS terminal by the example of this invention. In drawing, 1 is a net control station, by controlling a telephone network 4, connects each base transceiver station and manages communication between PHS terminals. 2 is the service Administration Bureau and offers various kinds of services which give a user the above-mentioned voice mail and data according to the demand from PHS terminal 6 which accumulates and mentions voice mail, various data, etc. later at a database 3. The service Administration Bureau 2 prepares the area (mail BOX) which accumulates voice mail (voice data) in a database according to the demand from a PHS terminal, saves this voice mail, or offers the voice mail service which transmits to a user. In addition, the above-mentioned net control station 1 and the service Administration Bureau 2 may be one thing.
[0014] Next, a telephone network 4 is the usual analog telephone line network which it ********ed all over the country, or a digital line network of exclusive use. Next, base transceiver stations 5 and 5 are established in the telephone network 4 at intervals of predetermined, and are relay centers which connect a telephone network 4 and PHS terminals 6 and 6 on radio. Next, to the base transceiver station 5

established in near, they are carried by the user, and PHS terminals 6 and 6 advance a line connection demand by radio, and it telephones to other PHS terminals 6 and the domestic usual telephone 7, or they receive service by the service Administration Bureau 2 through this base transceiver station 5.
[0015] A-2. The composition, next drawing 2 of a PHS terminal are the block diagram showing the composition of the PHS terminal by the example of this invention. In drawing, 10 is the transceiver section and consists of modems which consist of the frequency-conversion section which consists of a receive section and the transmitting section, and a receive section and the transmitting section. The receive section of the frequency-conversion section carries out frequency conversion to IF (intermediate frequency) signal near a 1MHz band from a 1.9GHz band by mixing the signal which is inputted through the antenna switch which distributes transmission/reception and which was received with Antenna ANT with the local oscillation signal of the predetermined frequency outputted from a PLL synthesizer. Moreover, by mixing the modulated wave of pi / 4 shift QPSK supplied from the modem mentioned later with the local oscillation signal of the predetermined frequency outputted from a PLL synthesizer, frequency conversion of the transmitting section of the frequency-conversion section is carried out to a 1.9GHz band, and it is radiated from Antenna ANT through an antenna switch. Next, the receive section of the modem mentioned above restores to the IF signal from the frequency-conversion section, it separates into IQ data, and it considers as a data stream, and is sent out to the communications control section 11. Moreover, in the transmitting section of a modem, IQ data are created from the data supplied from the communications control section 11, pi / 4 shift QPSK is modulated, and it sends out to the frequency-conversion section of the transceiver section 10.
[0016] Next, the communications control section 11 consists of a transmitting side and a receiving side, and performs data format processing of frame synchronization and a slot. After the above-mentioned receiving side takes out the data for one slot from the received data supplied from the modem of the transceiver section 10 to predetermined timing, extracts unique WORD (synchronizing signal) out of this data, and generates a frame synchronization signal and cancels the scramble of the control data section and the voice data section etc., it sends out control data to a control section 16, and sends out voice data to the speech processing section 12. Moreover, the above-mentioned transmitting side adds unique WORD etc., after giving scramble etc. while adding control data etc. to the voice data supplied from the speech processing section 12, it creates the transmit data for one slot, inserts it in the predetermined slot in a frame to predetermined timing, and is sent out to the modem of the transceiver section 10.
[0017] Next, the speech processing section 12 mentioned above consists of a speech codec and a PCM codec. The above-mentioned speech codec performs compression/extension processing of digital data, and consists of a receiving side and a transmitting side. It elongates by decrypting the ADPCM sound signal (4 bit x8kHz=32Kbps) supplied from the communications control section 11 to a PCM sound signal (8 bit x8kHz=64Kbps), and a receiving side is outputted to a PCM codec. A transmitting side is compressed by encoding the PCM sound signal supplied from a PCM codec to an ADPCM sound signal, and is sent out to the communications control section 11. The PCM codec mentioned above performs analog-to-digital-conversion processing, a receiving side changes into an analog sound signal the PCM sound signal supplied from a speech codec by D/A conversion, and it is made to pronounce from a loudspeaker 13, and a transmitting side changes into a PCM signal the analog sound signal inputted from the microphone 14 by A/D conversion, and sends it out to a speech codec.
[0018] Next, the key input section 15 consists of a numerical keypad which inputs the telephone number of the partner point, the switch which performs on hook/OFUFUKKU, the volume switch into which a voice output is changed, etc. The state of these keys or a switch is supplied to a control section 16. Next, a control section 16 controls the whole equipment according to a predetermined program. Especially, in this example, the number of cases and the maintenance period of the voice mail saved in the database 3 of the service Administration Bureau 2 mentioned above are managed based on the information about the voice mail stored in RAM18 mentioned later. In other words, the number of cases and the maintenance period of these voice mail are managed by the PHS terminal 6 side concerned. The program performed by the above-mentioned control section 16, various parameters, etc. are stored in

ROM17. Moreover, while the data generated with control of the above-mentioned control section 16 are stored or being used as a working area, a part of information about the voice mail managed by the service Administration Bureau 2 is stored in RAM18. About this information, it mentions later. In addition, storage of RAM18 is held by the power supply from the rechargeable battery which is not illustrated.

[0019] Next, while the display 19 consists of Light Emitting Diodes which show the liquid crystal display which displays various data, such as a mode of operation, and the telephone number, duration of a call, etc., ON/OFF of a switch etc., etc. and displaying various data under control of the above-mentioned control section It is a touch panel, and if the displayed icon is directed with a user or the touch pen mentioned later (depression), the function assigned to the icon will be performed. next, a time check -- according to a predetermined clock, the section 20 has clocked the present time on real time, and supplies this present time to a control section 16 to predetermined timing

[0020] A-3. The appearance composition, next drawing 3 (a) of a PHS terminal are the plan showing the appearance composition of PHS terminal 6 mentioned above, and drawing 3 (b) is [the front view of this PHS terminal 6 and drawing 3 (d) of the left lateral view of this PHS terminal 6 and drawing 3 (c)] the right lateral views of this PHS terminal. In addition, the same sign is attached to the portion corresponding to drawing 2 , and explanation is omitted. In drawing, 31 is a dial button which inputs a ten key, a character, a sign, etc. 32 is a telephone call button and becomes off-hook by carrying out the depression of this telephone call button. 33 is an OFF button, and after pushing a telephone call button and being off-hook, it becomes on hook by carrying out the depression of this OFF button. 34 is a transceiver / extension button, and when talking directly with PHS terminals, it is used.

[0021] Next, 35 is response/hold button, and when transmitting the voice mail which was pushed when suspending all busy, or was memorized inside to the partner point, it is pushed. 36 is the various feature button groups for calling the telephone directory which is the database of the telephone number which performed redial, registration and deletion of a shortening number, measurement of duration of a call, etc., or was registered beforehand. Moreover, the volume button 37 shown in drawing 3 (b) is used for a search before and after the above-mentioned telephone directory, and volume control. The recording button 38 is operated, in case the voice from the partner point is recorded or the voice mail which transmits to the partner point is recorded with this machine. Moreover, in drawing 3 (d), 40 is a slide switch which switches whether it uses by the power supply of the PHS terminal concerned and the transceiver, or telephone. Moreover, 41 is the touch pen formed in the main part removable, by pressing the liquid crystal display front face of a display 19 mentioned above, performs the function assigned to the icon showing various functions, or performs selection in a selection branch.

[0022] A-4. The data composition, next drawing 4 (a) of voice mail are the ** type view showing the information about the voice mail managed at the service Administration Bureau 2 which mentioned above, and drawing 4 (b) is the ** type view showing the information about the voice mail managed with PHS terminal 6. In drawing 4 (a), the service Administration Bureau 2 holds non-arrived [depart and] maintenance voice mail, arrival-of-the-mail unread maintenance voice mail, arrival-of-the-mail existing ****** voice mail, and voice mail service system setting information for every PHS terminal. First, non-arrived [depart and] maintenance voice mail is still the information about the voice mail which is not read by the partner, and it consists of the last dispatch time, a partner's telephone number (addresser discernment data), a partner's situations (during the conversation, those without a response, etc.), and the content of voice mail (voice data). Next, arrival-of-the-mail unread maintenance voice mail receives a message, and is still the information about the voice mail which is not read, and it consists of arrival-of-the-mail time, a partner's telephone number, and the content of voice mail (voice data). Next, arrival-of-the-mail existing ****** voice mail is the information about the voice mail which received a message and was already read, and it consists of arrival-of-the-mail time, a partner's telephone number, and the content of voice mail (voice data). And voice mail service system setting information is the content of a setting about the voice mail service concerned, and it consists of the number of times of ringing tone which determines the number of times of pronunciation of the ringing tone at the time of a call, a during the conversation setup, a message time setup which decides on the recording time of voice

mail, a warning setup which decides whether to emit the warning about the number of maintenance, or a maintenance term. Thus, all the information about voice mail is held at the service Administration Bureau 2.
[0023] On the other hand, PHS terminal 6 holds only arrival-of-the-mail unread maintenance voice mail, arrival-of-the-mail existing ****** voice mail, and voice mail service system setting information, as shown in drawing 4 (b). Furthermore, as arrival-of-the-mail unread preservation voice mail and arrival-of-the-mail existing ****** voice mail, only the telephone number (addresser discernment data) of arrival-of-the-mail time and a partner is held, and the content of voice mail is not held. About voice mail service system setting information, it is the same as that of what is held at the service Administration Bureau 2. Thus, in a PHS terminal, a part is managed among the information managed at the service Administration Bureau 2 which mentioned above. In the conventional radio communications system, since information was not held at all to a PHS terminal 6 side, in order to acquire the information about voice mail, the service Administration Bureau 2 of the degree of ** and a communication network 4 had to be asked by telephoning for the purpose other than reproduction of the content of voice mail. As a content of an inquiry, there is a thing "how many voice mail there are now" and "when someone voice mail to have been received", for example. it generates frequently and these inquiries telephone [charged] whenever [the] -- it was required On the other hand, in this example, since the minimum information which was mentioned above to the PHS terminal was held, if it is based on this information and the state of Mail BOX is managed and displayed, the state of Mail BOX can be grasped at any time.
[0024] B. Explain operation of operation of an example next the radio communications system by the example mentioned above, and a PHS terminal. The following explanation explains voice mail transmitting processing (setting processing and the usual telephone call of Mail BOX are included), the voice mail reception which reproduces the voice mail which received a message, maintenance extension-of-a-deadline processing in which term management of the voice mail currently held is performed, and the number adjustment processing of maintenance in which the quantity of the voice mail currently held is adjusted. In addition, below, since it is the same as that of operation of the usual PHS terminal about operation of each part accompanying a telephone call, explanation is omitted.
[0025] B-1. voice mail transmitting **** -- drawing 5 or drawing 7 is a flow chart for explaining voice mail transmitting processing of this example first In drawing, Step S10 - Step S38 are processings by the side of PHS terminal 6, and Step S50 - Step S74 are processings of the service Administration Bureau 2.

(a) Step S10 by the side of PHS terminal 6 stated to below mail BOX setting processing - Step S22 and Step S50 of the service Administration Bureau 2 (telephone network 4) - Step S54 are processings for setting up the various conditions over Mail BOX, and judge first whether many setup of Mail BOX is performed in Step S10 shown in drawing 5 by the PHS terminal 6 side. It is directed by the user whether set up or not. And in performing many setup of Mail BOX, the judgment result in Step S10 serves as "YES", and progresses to Step S12. At Step S12, the various conditions set as Mail BOX are inputted. These various conditions are inputted by directing the selection branch displayed on a display 19 with the touch pen 41, or carry out a direct input from the key input section 15. Moreover, as setups, the number of times of ringing tone and a during the conversation setup which were mentioned above, a message time setup, a warning setup, etc. are set up, and it is stored in RAM18 as voice mail service system setting information.
[0026] Next, in Step S14, it sends to the service Administration Bureau 2 of a telephone network 4 automatically. Connection of a circuit transmits a set point transmitting code in Step S16. And in Step S18, this step S18 is repeated and performed until it judges whether the code from the service Administration Bureau 2 which can be set up was received and the code which can be set up is received. On the other hand, in Step S50 shown in drawing 5 , the service Administration Bureau 2 of a telephone network 4 receives the set point transmitting code from a PHS terminal, and progresses to Step S52. At Step S52, the code which can be set up is transmitted to an applicable PHS terminal. In PHS terminal 6, if the above-mentioned code which can be set up is received, the judgment result in Step S18 will serve as "YES", and will progress to Step S20. At Step S20, the voice mail service system setting information

set as the service Administration Bureau 2 at Step S12 is transmitted. At the service Administration Bureau 2, while receiving the above-mentioned voice mail service system setting information and setting up the service condition of Mail BOX based on this voice mail service system setting information, it holds as voice mail service system setting information, and the processing concerned is ended. On the other hand, in PHS terminal 6, if it finishes transmitting voice mail service system setting information, it will progress to Step S22, a circuit will be cut automatically, and it will return to Step S10. Thus, since voice mail service system setting information is held not only at the service Administration Bureau 2 (telephone network 4) side but at a PHS terminal 6 side, if it can set up by the PHS terminal 6 side at any time and GUI (Graphical User Interface) is used for the setting technique, a bird clapper will not have overhead operation troublesome like before.

[0027] (b) Usually, Step S24 by the side of telephone call processing, next PHS terminal 6 shown in drawing 6 - Step S30 and Step S56 of the service Administration Bureau 2 - Step S64 According to the established state of Mail BOX, and the communication state of the other party, are the processing which performs transmission of voice mail, the processing which usually performs the change to a telephone call, and the usual telephone call, and it sets first to Step S24 by the side of PHS terminal 6. With reference to the telephone directory registered beforehand, the telephone number is directly inputted from a dial, and it sends to a dispatch place. Next, it progresses to Step S26 and judges whether there was any response from a dispatch place. On the other hand, the service Administration Bureau 2 will judge whether the mail BOX of the partner who is a dispatch place is set as compulsive voice mail in Step S56, if dispatch of PHS terminal 6 is received. Like an answering machine, compulsive voice mail holds compulsorily the telephone which received a message to Mail BOX, and is set up by setting processing of Mail BOX in which it mentioned above. And if a partner's mail BOX is not set as compulsive voice mail, the judgment result in Step S56 serves as "NO", and progresses to Step S58.

[0028] At Step S58, a partner judges whether it is during the conversation. And when a partner is not during the conversation, the judgment result in Step S58 serves as "NO", and progresses to Step S60. At Step S60, a partner judges whether the call was answered or not. And if a partner answers read-out, it will tell that the circuit was connected with PHS terminal 6 of a sending agency. On the other hand, in PHS terminal 6 of a sending agency, the judgment result in Step S26 serves as "YES", and progresses to Step S28. And the telephone call with a partner is performed in Step S28 by the side of PHS terminal 6, and Step S62 of the service Administration Bureau 2. And if a telephone is hung up, respectively, a telephone will be cut with Step S30 and Step S64, and the processing concerned will be ended. Thus, in this example, when it sends, the mail BOX of the other party is not set as compulsive voice mail, and it is not during the conversation, either, and when also answering, the usual telephone call is performed.

[0029] On the other hand, in PHS terminal 6, when a partner's mail BOX is set as compulsive voice mail or there is no response during the conversation etc., the judgment result in Step S26 serves as "NO", and progresses to Step S32 shown in drawing 7 . Similarly, at the service Administration Bureau 2, when a partner's mail BOX is set as compulsive voice mail or there is not during the conversation or a response, the judgment result in "YES" or Step S60 serves as "NO", and the judgment result in Step S56 and Step S58 progresses to Step S66 shown in drawing 7 .

[0030] (c) The processing in Step S32 of PHS terminal 6 stated to below voice mail transmitting processing - Step S38, and Step S66 of the service Administration Bureau 2 - Step S74 is processing which performs preservation to transmission and Mail BOX of voice mail. In addition, in this state, the circuit of PHS terminal 6 and a telephone network 4 is in the state where it connected in Step S24 mentioned above. First, in PHS terminal 6, voice mail (message) is inputted through a microphone 14 in Step S32. And it progresses to Step S34 and the above-mentioned voice mail is transmitted to the service Administration Bureau 2. On the other hand, at the service Administration Bureau 2, in Step S66, the above-mentioned voice mail is received and it progresses to Step S68. At Step S68, it judges whether a partner's mail BOX is full. And if Mail BOX is not full, the judgment result in Step S68 will serve as "NO", and will progress to Step S70.

[0031] At Step S70, the voice mail which received is saved at a partner's mail BOX. At this time, the telephone number of receiving time and an addresser etc. is saved with the content of voice mail. In

addition, the voice mail reception mentioned later explains preservation of the related information of the voice mail to a destination side. Next, it progresses to Step S72, the completion of mail transmitting is transmitted to PHS terminal 6 which is a transmitting agency, and the processing concerned is ended. On the other hand, when Mail BOX is full, the judgment result in Step S68 serves as "YES", and progresses to Step S74. At Step S74, a mail invalid is transmitted to PHS terminal 6 which is a transmitting agency, and the processing concerned is ended. On the other hand, in PHS terminal 6 of a transmitting agency, the above-mentioned completion of mail transmitting or a mail invalid is received in Step S36. Next, based on the completion of mail transmitting or the mail invalid which progressed to Step S38 and received, the transmitting situation of voice mail is displayed on a display 19, and the processing concerned is ended.

[0032] B-2. Voice mail reception next drawing 8 , and drawing 9 are the flow charts for explaining the voice mail reception of this example. In drawing, Step S80 - Step S92, and step S140-146 are processings of the service Administration Bureau 2 (telephone network 4), and Step S100 - Step S106 and Step S110 - Step S122 are processings by the side of PHS terminal 6.

(a) Step S80 of the service Administration Bureau 2 (telephone network 4) which states to below voice mail arrival processing - Step S92 and Step S100 by the side of a PHS terminal - Step S106 are processings to the voice mail at the time of arrival of the mail, and judge first whether voice mail was received from other PHS terminals in Step S80 by the service Administration Bureau 2 side. And if voice mail is not received, the judgment result in Step S80 serves as "NO", and ends the processing concerned. On the other hand, if voice mail is received from other PHS terminals, the judgment result in Step S80 will serve as "YES", and will progress to Step S82. At Step S82, the voice mail which received is saved at the mail BOX secured to PHS terminals 6 of a dispatch place. Next, while progressing to Step S84 and saving receiving time at Mail BOX, in Step S86, an addresser's (sending agency) telephone number is saved at Mail BOX. And in Step S88, it notifies having received voice mail to PHS terminal 6 of an action addressee (dispatch place). Next, in Step S90, the time which received voice mail to PHS terminal 6 of an action addressee (dispatch place) is notified, and an addresser's telephone number is notified in Step S92. And the processing concerned is ended.

[0033] On the other hand, in PHS terminal 6 by the side of an action addressee, it judges whether voice mail was received in Step S100. And when having not received, the judgment result in Step S100 serves as "NO", and ends the processing concerned as it is. On the other hand, if having received voice mail from the service Administration Bureau 2 is notified as mentioned above, the judgment result in Step S100 will serve as "YES", and will progress to Step S102. At Step S102, while saving the time which received the voice mail mentioned above at RAM18, in Step S104, an addresser's telephone number mentioned above is saved at RAM18. Next, it judges whether the voice mail which progressed to Step S106 and received is reproduced. It is directed by the user whether reproduce voice mail. And when reproduction of voice mail is not directed, the judgment result in Step S106 serves as "NO", and ends the processing concerned. Therefore, even if it is the case where it does not reproduce when voice mail is received, the receiving time of the above-mentioned voice mail and an addresser's telephone number are held at PHS terminal 6. On the other hand, when reproduction of voice mail is directed, the judgment result in Step S106 serves as "YES", and progresses to Step S110 shown in drawing 9 .

[0034] (b) Step S110 of PHS terminal 6 stated to below voice mail regeneration - Step S122, and Step S140 of the service Administration Bureau 2 - Step S146 are processings which reproduce the voice mail which received, and transmit a reproduction directions code automatically to the service Administration Bureau 2 (telephone network 4) in Step S110 with PHS terminal 6 first. On the other hand, at the service Administration Bureau 2, in Step S140, when it judges whether the reproduction directions code was received and the reproduction directions code is not received, the processing concerned is ended as it is. On the other hand, when a reproduction directions code is received, the judgment result in Step S140 serves as "YES", and progresses to Step S142. On the other hand, in PHS terminal 6, it progresses to Step S112 and judges whether the circuit was cut or not. And when the circuit is not cut (i.e., when the telephone is not hung up), the judgment result in Step S112 serves as "NO", and progresses to Step S114. At Step S114, it judges whether there is any voice mail to reproduce

based on the information (refer to drawing 4 (b)) stored in RAM18 of PHS terminal 6. And when there is no voice mail which should be reproduced, the judgment result in Step S114 serves as "NO", and progresses to Step S116. At Step S116, it displays on a display 19 that there is no voice mail which should be reproduced, and the processing concerned is ended. On the other hand, when there is voice mail to reproduce, the judgment result in Step S114 serves as "YES", and progresses to Step S118. The voice mail to reproduce is chosen at Step S118.

[0035] Here, an example of the method of choosing the voice mail to reproduce is explained. When choosing the voice mail to reproduce, as shown in drawing 10 , the list of voice mail is displayed on a display 19. In drawing, the number of cases of the voice mail which received is displayed on the upper part of a display 19. In the example of illustration, "50" of a denominator shows the number which can be held to Mail BOX and which can be saved, and "50" of a molecule shows the number of cases of the voice mail which received in it. Moreover, when the voice mail which received has reached the number which can be saved, inverse video is carried out like illustration. Next, as a list of voice mail, the telephone number or name of arrival-of-the-mail time and an addresser is displayed. In addition, it is shown that the person applicable to the telephone directory beforehand registered into PHS terminal 6 is in what shows an addresser's name in a list. That is, an addresser's telephone number and the telephone number of a telephone directory are collated, and an addresser's name is displayed when both sides are the same. Moreover, the mark MK of illustration shows that applicable voice mail has reached in the maintenance term, and in the maintenance extension-of-a-deadline processing mentioned later, if extended procedure of a maintenance term is performed, it will disappear. The voice mail which reached in the maintenance term will be automatically eliminated, if extended procedure of a maintenance term is not performed. Moreover, the list except being displayed on the display 18 can be displayed now by making a list scroll by touching the cursor 19a and 19b of illustration with the touch pen 41.

[0036] Thus, the list of voice mail which received is displayed on a display 18 as an index for reproduction. Selection of the voice mail to reproduce is performed by touching the arbitrary indexes for reproduction with the touch pen 41. Since the arbitrary indexes for reproduction can be chosen at this time, it is possible it not only to reproduce in order of reception, but to reproduce at random. Selection of the voice mail to reproduce directs the voice mail to reproduce to the service Administration Bureau 2 in Step S120 in PHS terminal 6. On the other hand, at the service Administration Bureau 2, the voice mail which was directed from PHS terminal 6 and which should be reproduced is read from Mail BOX in Step S142. Next, the voice mail progressed and read to Step S144 is transmitted to PHS terminal 6. In PHS terminal 6, in Step S122, the voice mail transmitted from the service Administration Bureau 2 is received, and it reproduces, and pronounces from a loudspeaker 13.

[0037] And in PHS terminal 6, after reproduction of voice mail is completed, it returns to Step S112. And it judges whether the telephone was hung up as mentioned above at Step S112, and when not cut, it progresses to henceforth [Step S114], and reproduction of other voice mail is repeated. On the other hand, at the service Administration Bureau 2, in Step S146, it judges whether the telephone was disconnected or not, and when not cut, it returns to Step S142 and operation of reading the voice mail directed with PHS terminal 6, and transmitting is repeated in Step S142 and Step S144. Moreover, if reproduction of voice mail is completed and a telephone is cut with a PHS terminal 6 side, the judgment result in Step S112 will serve as "YES", and will end the processing concerned. At the service Administration Bureau 2, if a telephone is cut with a PHS terminal 6 side, the judgment result in Step S146 will serve as "YES", and will end the processing concerned.

[0038] Thus, since PHS terminal 6 holds the necessary minimum information which consists of arrival-of-the-mail time of voice mail transmitted automatically [whenever voice mail is saved at Mail BOX] from the service Administration Bureau 2, and an addresser's telephone number The receiving index of voice mail can be displayed on a display 18 one by one always, without charged telephoning the service Administration Bureau 2. When it has not reached is someone's voice mail saved or a message was received in the maintenance term can check the information about voice mail.

[0039] B-3. Maintenance extension-of-a-deadline processing (a warning process is included)
Next, drawing 11 is a flow chart for explaining maintenance extension-of-a-deadline processing of this

example. In drawing, Step S160 - Step S176 are processings by the side of PHS terminal 6, and Step S190 and Step S192 are processings of the service Administration Bureau 2 (telephone network 4). First, refer to the arrival-of-the-mail time of a receiving index for PHS terminal 6 in Step S160. Next, in Step S162, it judges whether based on arrival-of-the-mail time, there is any voice mail which reached in the maintenance term. And if there is nothing that reached in the maintenance term, the judgment result in Step S162 will serve as "NO", and will end the processing concerned. On the other hand, if there are some which reached in the maintenance term, the judgment result in Step S162 will serve as "YES", and will progress to Step S164.

[0040] At Step S164, it warns of the maintenance term of the voice mail which reached in the maintenance term. As an example of a display of warning, as shown in drawing 13 , while displaying the character "WARNING" which shows warning on a display 18, the arrival-of-the-mail time of the corresponding voice mail and an addresser (a name or telephone number) are displayed on it, for example. PHS terminal 6 makes it input in Step S166 whether the maintenance term of voice mail is extended. A user checks the alarm display shown in drawing 13 , touches a display 18 with the touch pen 41, or inputs whether a maintenance term is extended from the key input section 15. Next, it progresses to Step S168 and judges whether extension of the maintenance term of voice mail was directed by the user. And when extension of a maintenance term is not directed, the judgment result in Step S168 serves as "NO", and ends the processing concerned. In this case, the information about the voice mail and it which reached in the maintenance term is automatically eliminated in the service Administration Bureau 2 and a PHS terminal.

[0041] On the other hand, when extension of a maintenance term is directed, the judgment result in Step S168 serves as "YES", and progresses to Step S170. At Step S170, the service Administration Bureau 2 (telephone network 4) is telephoned automatically. Next, it progresses to Step S172 and extension of the maintenance term of applicable voice mail is directed to the service Administration Bureau 2. If it finishes transmitting directions of extension, it will progress to Step S174 and a circuit will be cut automatically. And a processing result is made to reflect in a receiving index in Step S176. Consequently, when a receiving index displays on a display 18 next time, the mark MK mentioned above is no longer displayed. On the other hand, at the service Administration Bureau 2, it judges whether directions of extension of a deadline were received in Step S190. And the processing concerned is ended if directions of extension of a maintenance term are not received. On the other hand, when directions of extension of a maintenance term are received, the judgment result in Step S190 serves as "YES", and progresses to Step S192. At Step S192, the maintenance term of the applicable voice mail of Mail BOX is extended by predetermined days, and the processing concerned is ended.

[0042] B-4. The number adjustment processing of maintenance (a warning process is included) Next, drawing 12 is a flow chart for explaining the number adjustment processing of maintenance of this example. In drawing, Step S200 - Step S216 are processings by the side of PHS terminal 6, and Step S220 and Step S222 are processings of the service Administration Bureau 2 (telephone network 4). First, refer to the number of voice mail for PHS terminal 6 from a receiving index in Step S200. Next, in Step S202, it judges whether the number of cases of the voice mail which received has reached the number which can be saved. And if the number which can be saved is not reached, the judgment result in Step S202 serves as "NO", and ends the processing concerned. On the other hand, when the number which can be saved is reached, the judgment result in Step S202 serves as "YES", and progresses to Step S204. At Step S204, it warns of the number of cases of the voice mail which received having reached the number which can be saved. As an example of a display of warning, as shown in drawing 14 , while displaying the character "WARNING" which shows warning on a display 18, the number of cases of the voice mail which received displays the purport which has reached the number which can be saved on it, for example.

[0043] PHS terminal 6 makes the voice mail to delete specify in Step S206 while making it input whether voice mail is deleted. A user checks the display shown in drawing 14 , and specifies the voice mail deleted from the receiving index displayed as it was shown in drawing 10 , while touching a display 18 with the touch pen 41 or inputting whether voice mail is deleted from the key input section

15. In addition, you may direct only two or more one voice mail to delete. Next, in PHS terminal 6, it progresses to Step S208 and judges whether deletion of voice mail was directed by the user. And when deletion is not directed, the judgment result in Step S208 serves as "NO", and ends the processing concerned. In this case, it is not saved even if it newly receives voice mail.

[0044] On the other hand, when deletion is directed, the judgment result in Step S208 serves as "YES", and progresses to Step S210. At Step S210, the service Administration Bureau 2 (telephone network 4) is telephoned automatically. Next, it progresses to Step S212 and deletion of applicable voice mail is directed to the service Administration Bureau 2. If it finishes transmitting directions of deletion, it will progress to Step S214 and a circuit will be cut automatically. And a processing result is made to reflect in a receiving index in Step S216. That is, while deleting the telephone number of the arrival-of-the-mail time about the specified voice mail, and an addresser, the decrement of the number of cases is carried out by the specification number of cases. Consequently, when a receiving index is displayed, the display of the number of cases shown in drawing 10 is updated. On the other hand, at the service Administration Bureau 2, it judges whether directions of deletion were received in Step S220. And the processing concerned is ended if directions of deletion are not received. On the other hand, when directions of deletion are received, the judgment result in Step S220 serves as "YES", and progresses to Step S222. At Step S222, the applicable voice mail of Mail BOX is deleted and the processing concerned is ended.

[0045] Thus, in this example, the service Administration Bureau 2 will transmit the telephone number of receiving time and an addresser to PHS terminal 6 of an addressee with the receipt that there was a receiving fact, if voice mail is received. PHS terminal 6 manages the number of voice mail, a maintenance term, unread, existing **, etc. based on the telephone number of the above-mentioned arrival-of-the-mail time which is very little information, and an addresser compared with the information managed at the service Administration Bureau 2. For this reason, with PHS terminal 6, the situation of voice mail can be checked by easy operation, without telephoning a telephone network 4 periodically. Moreover, since it warned of that when PHS terminal 6 had the voice mail which reached in the maintenance term based on the above-mentioned arrival-of-the-mail time, forgetting a check of it is lost. Moreover, since it displays on a display 18 by making the telephone number of the above-mentioned arrival-of-the-mail time and an addresser into a receiving index and enabled it to reproduce arbitrary voice mail out of it, it comes to be able to carry out random reproduction regardless of arrival-of-the-mail time.

[0046] In addition, in the example mentioned above, although only voice mail was explained, the character (text) data and image (bit map) data not only other than this but voice data may be included.

[0047]

[Effect of the Invention] Since a part of attribute is transmitted to the terminal of a destination side and the quantity or the maintenance period of the above-mentioned data was managed at the terminal of a destination side based on a part of this attribute when saving temporarily for a storage means by which the information which shows the attribute of the data supplied from the terminal of an origination side and these data was established by the communication network according to this invention, the following effects can be acquired.

(1) The situation of voice mail can be checked by easy operation, without telephoning a communication network periodically, since the number of voice mail, a maintenance term, unread, existing **, etc. are managed with a terminal based on the arrival-of-the-mail time and addresser discernment data which are very little information compared with the information managed with a communication line management tool.

(2) Moreover, the situation of voice mail can be checked, without carrying out complicated operation which telephones a communication network, since it warned of that by the terminal side, when there was voice mail which reached in the maintenance term, or when the maintenance number of cases of voice mail turns into a number which can be held.

(3) Moreover, since the above-mentioned arrival-of-the-mail time and addresser discernment data are displayed as a receiving index and it enabled it to reproduce arbitrary voice mail out of it, it comes to be able to carry out random reproduction regardless of arrival-of-the-mail time.

(4) Consequently, sending-and-receiving operation of voice mail, overhead operation, situation check operation of Mail BOX, etc. can be performed very simply.

[Translation done.]

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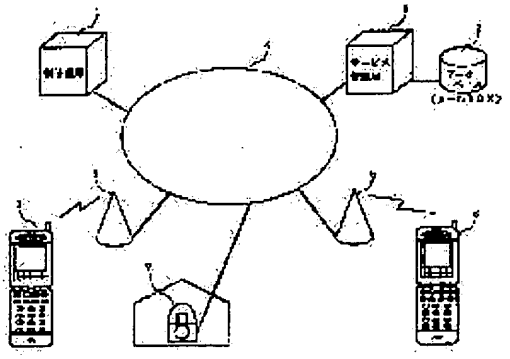
(72) Inventor : FURUTA SHINICHI

(54) RADIO COMMUNICATION SYSTEM AND RADIO COMMUNICATION PORTABLE INFORMATION TERMINAL EQUIPMENT

(57) Abstract:
PURPOSE: To obtain a radio communication system and the radio communication portable information terminal in which the operation of the user is simplified and the voice mail service is effectively utilized.
CONSTITUTION: Upon receiving a voice mail, a service management station 2 stores a voice mail and information relating to the voice mail in a mail box of a database 3. Furthermore, a reception date and a caller telephone number together with a reception notice of a fact of reception are sent to a PHS terminal 6 of a recipient. The PUS terminal equipment 6 manages number of voice mails, their validity, non-reading and reading or the like based on a received date and a caller telephone number of very small amount information in comparison with information managed by the service management station 2. Thus, the PHS terminal equipment 6 confirms a state of voice mails with an easy operation without making a routine phone call to a telephone line network 4. Furthermore, the PHS terminal equipment 6 discriminates the presence of a voice mail expiring the validity based on the received date, the terminal 6 makes warning of it.



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* NOTICES *

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TECHNICAL FIELD

[Industrial Application] this invention relates to the radio communications system and radio Personal Digital Assistant which deliver and receive information through the telephone line with terminals, such as a PHS terminal.

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PRIOR ART

[Description of the Prior Art] In recent years, as a terminal in a radio communications system, it is carried by the user and other terminals containing common domestic telephone and the radio Personal Digital Assistants (for example, a portable telephone, a PHS terminal-ersonal Handy Phone System terminal, PDA:Personal Digital Assistant, etc.) which communicate voice and data mutually are known. These radio Personal Digital Assistants are driven with a rechargeable battery so that it can be used, after carrying, and they can accumulate now various data, such as the telephone number of the partner point, and a memorandum with an address book, a schedule, and a character and voice. This radio Personal Digital Assistant can communicate with other terminals similarly connected to the communication network by radio through the base transceiver station after communicating with other terminals or connecting with the public line which is a communication network directly through the base transceiver station arranged at the predetermined intervals by the communication network laid by the wide range area. The above-mentioned base transceiver station is a repeater which delivers and receives information and establishes the communication path between a radio Personal Digital Assistant and a communication network by the radio Personal Digital Assistant and radio.
[0003] In the radio communications system mentioned above, the mail BOX which accumulates voice mail (voice data) in the database which the service Administration Bureau connected to the communication network has is formed, according to the demand from a PHS terminal, the above-mentioned voice mail is saved or the service supplied to a user is offered. However, since a physical limitation is in the capacity of a database, it is impossible to accumulate all all users' voice mail as a matter of fact. Then, in the present condition, if it maintains for every fixed period and there are no special directions (extended directions of a maintenance period), after receiving, it is carrying out eliminating automatically what carried out predetermined period (for example, one month) progress etc.

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EFFECT OF THE INVENTION

[Effect of the Invention] Since a part of attribute is transmitted to the terminal of a destination side and the quantity or the maintenance period of the above-mentioned data was managed at the terminal of a destination side based on a part of this attribute when saving temporarily for a storage means by which the information which shows the attribute of the data supplied from the terminal of an origination side and these data was established by the communication network according to this invention, the following effects can be acquired.
(1) The situation of voice mail can be checked by easy operation, without telephoning a communication network periodically, since the number of voice mail, a maintenance term, unread, existing **, etc. are managed with a terminal based on the arrival-of-the-mail time and addresser discernment data which are very little information compared with the information managed with a communication line management tool.
(2) Moreover, the situation of voice mail can be checked, without carrying out complicated operation which telephones a communication network, since it warned of that by the terminal side, when there was voice mail which reached in the maintenance term, or when the maintenance number of cases of voice mail turns into a number which can be held.
(3) Moreover, since the above-mentioned arrival-of-the-mail time and addresser discernment data are displayed as a receiving index and it enabled it to reproduce arbitrary voice mail out of it, it comes to be able to carry out random reproduction regardless of arrival-of-the-mail time.
(4) Consequently, sending-and-receiving operation of voice mail, overhead operation, situation check operation of Mail BOX, etc. can be performed very simply.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, in the conventional radio communications system and conventional radio Personal Digital Assistant which were mentioned above, since all of information about voice mail, such as the number of voice mail (existence is also included), and the contents, attribute information (a partner, sending-and-receiving time, sheep of a check / finishing), were managed by the communication network side (service Administration Bureau), it had the following problems.
(b) Since it will be automatically eliminated from an old thing if a fixed period passes, there was a problem that voice mail [being unread (what is not heard yet)] will also be eliminated.
(b) moreover, since the number of the voice mail saved also had a limit, even if it was newly going to save that until [limit full] preservation was carried out at not knowing, there was a problem that it will be refused, about it
(c) Although what is necessary is just to have checked the maintenance term of voice mail, telephoning a communication network periodically in order to have solved the above-mentioned problem, in order to have checked the information (the contents are also included) about voice mail, while it had to check to whenever [the] to the communication network, having had to telephone and it took time and effort very much, there was a problem that possibility of forgetting a check was large.
(d) Moreover, in the conventional radio Personal Digital Assistant, it had only the dialing key for inputting the telephone number fundamentally as an input means, but since the command for using voice mail service only by this dialing key had to be generated, there was a problem that sending-and-receiving operation of voice mail, overhead operation, situation check operation of Mail BOX, etc. became very troublesome.
[0005] Then, this invention aims at offering the radio communications system and radio Personal Digital Assistant which can use voice mail service effectively while it can simplify operation of a user.

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MEANS

[Means for Solving the Problem] In case the radio communications system according to invention according to claim 1 for the above-mentioned purpose achievement is temporarily saved for a storage means by which the information which shows the attribute of the data supplied from the terminal of an origination side and these data was established by the communication network, it transmits a part of aforementioned attribute to the terminal of a destination side, and is characterized by managing the quantity or the maintenance period of the aforementioned data at the terminal of a destination side based on a part of aforementioned attribute.
[0007] Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 2 publication as a desirable mode. Moreover, when [according to claim 3] the quantity of the aforementioned data reaches a predetermined value, or when the maintenance period of the aforementioned data reaches in a maintenance term, you may make it the aforementioned terminal emit warning like as a desirable mode, for example.
[0008] Moreover, the radio communications system by invention according to claim 4 The terminal which is carried by the user and communicates with other terminals through a predetermined communication line, While notifying the purport that data were received to the terminal of the partner by whom these data should be transmitted whenever it has a storage means to save temporarily the information which shows the attribute of the data transmitted from the aforementioned terminal, and these data and receives data from the aforementioned terminal The communication line management tool which transmits a part of aforementioned attribute is provided, the aforementioned terminal will hold a part of aforementioned attribute, if the purport that data were received from the aforementioned communication line management tool is notified, and based on a part of this attribute, it is characterized by managing the quantity or the maintenance period of the aforementioned data. Moreover, when the quantity of the data saved for the aforementioned storage means like based on a part of aforementioned attribute according to claim 5 reaches a predetermined value, or when the maintenance period of the aforementioned data reaches in a maintenance term, you may make it the aforementioned terminal emit warning as a desirable mode, for example.
[0009] Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 6 publication as a desirable mode. Moreover, the aforementioned data may be voice data like for example, claim 7 publication as a desirable mode. Moreover, you may make it the aforementioned terminal equipped with a display means to display a part of aforementioned attribute saved whenever the purport according to claim 8 that data were received from the aforementioned communication line management tool was notified like, for example for every data, as a desirable mode.
[0010] Moreover, you may make it, as for the aforementioned display means, that display at a user that a predetermined mark is discriminable as a desirable mode on the attribute over the data with which the maintenance period has reached in the maintenance term, for example among [some / according to claim 9] the aforementioned attributes displayed like. Moreover, as a desirable mode, without saving

the information which shows a part of aforementioned attribute like, for example, when [according to claim 10] the terminal of a destination side answers to dispatch of a terminal, the aforementioned communication line management tool secures the communication path of the terminal of an origination side, and the terminal of a destination side, and may be made to make a telephone call possible.
[0011] Moreover, the radio Personal Digital Assistant by invention according to claim 11 is carried by the user, and this invention is characterized by other terminals and the terminal which communicates possessing the following through a predetermined communication line. A terminal transceiver means to transmit and receive data between the aforementioned communication lines. An attribute storage means to hold a part of attribute of the aforementioned data supplied from a communication line through the aforementioned terminal transceiver means whenever data are sent from other terminals. The management tool which emits warning when the quantity or the maintenance period of the aforementioned data is managed and the quantity of the aforementioned data reaches a predetermined value based on a part of aforementioned attribute held at the aforementioned attribute storage means, or when the maintenance period of the aforementioned data reaches in a maintenance term. A display means to display the warning from the aforementioned management tool while giving a list indication of a part of aforementioned attribute memorized by the aforementioned attribute storage means. Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 12 publication as a desirable mode. Moreover, the aforementioned data may be voice data like for example, claim 13 publication as a desirable mode.

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EXAMPLE

[Example] Hereafter, the example of this invention is explained with reference to a drawing. this example explains the example applied to the PHS terminal.
A. The block diagram 1 of the composition A-1. radio communications system of an example is a block diagram showing the composition of radio communications systems, such as a PHS terminal by the example of this invention. In drawing, 1 is a net control station, by controlling a telephone network 4, connects each base transceiver station and manages communication between PHS terminals. 2 is the service Administration Bureau and offers various kinds of services which give a user the above-mentioned voice mail and data according to the demand from PHS terminal 6 which accumulates and mentions voice mail, various data, etc. later at a database 3. The service Administration Bureau 2 prepares the area (mail BOX) which accumulates voice mail (voice data) in a database according to the demand from a PHS terminal, saves this voice mail, or offers the voice mail service which transmits to a user. In addition, the above-mentioned net control station 1 and the service Administration Bureau 2 may be one thing.
[0014] Next, a telephone network 4 is the usual analog telephone line network which it ********ed all over the country, or a digital line network of exclusive use. Next, base transceiver stations 5 and 5 are established in the telephone network 4 at intervals of predetermined, and are relay centers which connect a telephone network 4 and PHS terminals 6 and 6 on radio. Next, to the base transceiver station 5 established in near, they are carried by the user, and PHS terminals 6 and 6 advance a line connection demand by radio, and it telephones to other PHS terminals 6 and the domestic usual telephone 7, or they receive service by the service Administration Bureau 2 through this base transceiver station 5.
[0015] A-2. The composition, next drawing 2 of a PHS terminal are the block diagram showing the composition of the PHS terminal by the example of this invention. In drawing, 10 is the transceiver section and consists of modems which consist of the frequency-conversion section which consists of a receive section and the transmitting section, and a receive section and the transmitting section. The receive section of the frequency-conversion section carries out frequency conversion to IF (intermediate frequency) signal near a 1MHz band from a 1.9GHz band by mixing the signal which is inputted through the antenna switch which distributes transmission/reception and which was received with Antenna ANT with the local oscillation signal of the predetermined frequency outputted from a PLL synthesizer. Moreover, by mixing the modulated wave of pi / 4 shift QPSK supplied from the modem mentioned later with the local oscillation signal of the predetermined frequency outputted from a PLL synthesizer, frequency conversion of the transmitting section of the frequency-conversion section is carried out to a 1.9GHz band, and it is radiated from Antenna ANT through an antenna switch. Next, the receive section of the modem mentioned above restores to the IF signal from the frequency-conversion section, it separates into IQ data, and it considers as a data stream, and is sent out to the communications control section 11. Moreover, in the transmitting section of a modem, IQ data are created from the data supplied from the communications control section 11, pi / 4 shift QPSK is modulated, and it sends out to the frequency-conversion section of the transceiver section 10.
[0016] Next, the communications control section 11 consists of a transmitting side and a receiving side,

and performs data format processing of frame synchronization and a slot. After the above-mentioned receiving side takes out the data for one slot from the received data supplied from the modem of the transceiver section 10 to predetermined timing, extracts unique WORD (synchronizing signal) out of this data, and generates a frame synchronization signal and cancels the scramble of the control data section and the voice data section etc., it sends out control data to a control section 16, and sends out voice data to the speech processing section 12. Moreover, the above-mentioned transmitting side adds unique WORD etc., after giving scramble etc. while adding control data etc. to the voice data supplied from the speech processing section 12, it creates the transmit data for one slot, inserts it in the predetermined slot in a frame to predetermined timing, and is sent out to the modem of the transceiver section 10.

[0017] Next, the speech processing section 12 mentioned above consists of a speech codec and a PCM codec. The above-mentioned speech codec performs compression/extension processing of digital data, and consists of a receiving side and a transmitting side. It elongates by decrypting the ADPCM sound signal (4 bit x8kHz=32Kbps) supplied from the communications control section 11 to a PCM sound signal (8 bit x8kHz=64Kbps), and a receiving side is outputted to a PCM codec. A transmitting side is compressed by encoding the PCM sound signal supplied from a PCM codec to an ADPCM sound signal, and is sent out to the communications control section 11. The PCM codec mentioned above performs analog-to-digital-conversion processing, a receiving side changes into an analog sound signal the PCM sound signal supplied from a speech codec by D/A conversion, and it is made to pronounce from a loudspeaker 13, and a transmitting side changes into a PCM signal the analog sound signal inputted from the microphone 14 by A/D conversion, and sends it out to a speech codec.

[0018] Next, the key input section 15 consists of a numerical keypad which inputs the telephone number of the partner point, the switch which performs on hook/OFUFUKKU, the volume switch into which a voice output is changed, etc. The state of these keys or a switch is supplied to a control section 16. Next, a control section 16 controls the whole equipment according to a predetermined program. Especially, in this example, the number of cases and the maintenance period of the voice mail saved in the database 3 of the service Administration Bureau 2 mentioned above are managed based on the information about the voice mail stored in RAM18 mentioned later. In other words, the number of cases and the maintenance period of these voice mail are managed by the PHS terminal 6 side concerned. The program performed by the above-mentioned control section 16, various parameters, etc. are stored in ROM17. Moreover, while the data generated with control of the above-mentioned control section 16 are stored or being used as a working area, a part of information about the voice mail managed by the service Administration Bureau 2 is stored in RAM18. About this information, it mentions later. In addition, storage of RAM18 is held by the power supply from the rechargeable battery which is not illustrated.

[0019] Next, while the display 19 consists of Light Emitting Diodes which show the liquid crystal display which displays various data, such as a mode of operation, and the telephone number, duration of a call, etc., ON/OFF of a switch etc., etc. and displaying various data under control of the above-mentioned control section It is a touch panel, and if the displayed icon is directed with a user or the touch pen mentioned later (depression), the function assigned to the icon will be performed. next, a time check -- according to a predetermined clock, the section 20 has clocked the present time on real time, and supplies this present time to a control section 16 to predetermined timing

[0020] A-3. The appearance composition, next drawing 3 (a) of a PHS terminal are the plan showing the appearance composition of PHS terminal 6 mentioned above, and drawing 3 (b) is [the front view of this PHS terminal 6 and drawing 3 (d) of the left lateral view of this PHS terminal 6 and drawing 3 (c)] the right lateral views of this PHS terminal. In addition, the same sign is attached to the portion corresponding to drawing 2 , and explanation is omitted. In drawing, 31 is a dial button which inputs a ten key, a character, a sign, etc. 32 is a telephone call button and becomes off-hook by carrying out the depression of this telephone call button. 33 is an OFF button, and after pushing a telephone call button and being off-hook, it becomes on hook by carrying out the depression of this OFF button. 34 is a transceiver / extension button, and when talking directly with PHS terminals, it is used.

[0021] Next, 35 is response/hold button, and when transmitting the voice mail which was pushed when suspending all busy, or was memorized inside to the partner point, it is pushed. 36 is the various feature button groups for calling the telephone directory which is the database of the telephone number which performed redial, registration and deletion of a shortening number, measurement of duration of a call, etc., or was registered beforehand. Moreover, the volume button 37 shown in drawing 3 (b) is used for a search before and after the above-mentioned telephone directory, and volume control. The recording button 38 is operated, in case the voice from the partner point is recorded or the voice mail which transmits to the partner point is recorded with this machine. Moreover, in drawing 3 (d), 40 is a slide switch which switches whether it uses by the power supply of the PHS terminal concerned and the transceiver, or telephone. Moreover, 41 is the touch pen formed in the main part removable, by pressing the liquid crystal display front face of a display 19 mentioned above, performs the function assigned to the icon showing various functions, or performs selection in a selection branch.
[0022] A-4. The data composition, next drawing 4 (a) of voice mail are the ** type view showing the information about the voice mail managed at the service Administration Bureau 2 which mentioned above, and drawing 4 (b) is the ** type view showing the information about the voice mail managed with PHS terminal 6. In drawing 4 (a), the service Administration Bureau 2 holds non-arrived [depart and] maintenance voice mail, arrival-of-the-mail unread maintenance voice mail, arrival-of-the-mail existing ****** voice mail, and voice mail service system setting information for every PHS terminal. First, non-arrived [depart and] maintenance voice mail is still the information about the voice mail which is not read by the partner, and it consists of the last dispatch time, a partner's telephone number (addresser discernment data), a partner's situations (during the conversation, those without a response, etc.), and the content of voice mail (voice data). Next, arrival-of-the-mail unread maintenance voice mail receives a message, and is still the information about the voice mail which is not read, and it consists of arrival-of-the-mail time, a partner's telephone number, and the content of voice mail (voice data). Next, arrival-of-the-mail existing ****** voice mail is the information about the voice mail which received a message and was already read, and it consists of arrival-of-the-mail time, a partner's telephone number, and the content of voice mail (voice data). And voice mail service system setting information is the content of a setting about the voice mail service concerned, and it consists of the number of times of ringing tone which determines the number of times of pronunciation of the ringing tone at the time of a call, a during the conversation setup, a message time setup which decides on the recording time of voice mail, a warning setup which decides whether to emit the warning about the number of maintenance, or a maintenance term. Thus, all the information about voice mail is held at the service Administration Bureau 2.
[0023] On the other hand, PHS terminal 6 holds only arrival-of-the-mail unread maintenance voice mail, arrival-of-the-mail existing ****** voice mail, and voice mail service system setting information, as shown in drawing 4 (b). Furthermore, as arrival-of-the-mail unread preservation voice mail and arrival-of-the-mail existing ****** voice mail, only the telephone number (addresser discernment data) of arrival-of-the-mail time and a partner is held, and the content of voice mail is not held. About voice mail service system setting information, it is the same as that of what is held at the service Administration Bureau 2. Thus, in a PHS terminal, a part is managed among the information managed at the service Administration Bureau 2 which mentioned above. In the conventional radio communications system, since information was not held at all to a PHS terminal 6 side, in order to acquire the information about voice mail, the service Administration Bureau 2 of the degree of ** and a communication network 4 had to be asked by telephoning for the purpose other than reproduction of the content of voice mail. As a content of an inquiry, there is a thing "how many voice mail there are now" and "when someone voice mail to have been received", for example. it generates frequently and these inquiries telephone [charged] whenever [the] -- it was required On the other hand, in this example, since the minimum information which was mentioned above to the PHS terminal was held, if it is based on this information and the state of Mail BOX is managed and displayed, the state of Mail BOX can be grasped at any time.
[0024] B. Explain operation of operation of an example next the radio communications system by the example mentioned above, and a PHS terminal. The following explanation explains voice mail

transmitting processing (setting processing and the usual telephone call of Mail BOX are included), the voice mail reception which reproduces the voice mail which received a message, maintenance extension-of-a-deadline processing in which term management of the voice mail currently held is performed, and the number adjustment processing of maintenance in which the quantity of the voice mail currently held is adjusted. In addition, below, since it is the same as that of operation of the usual PHS terminal about operation of each part accompanying a telephone call, explanation is omitted.
[0025] B-1. voice mail transmitting **** -- drawing 5 or drawing 7 is a flow chart for explaining voice mail transmitting processing of this example first In drawing, Step S10 - Step S38 are processings by the side of PHS terminal 6, and Step S50 - Step S74 are processings of the service Administration Bureau 2.

(a) Step S10 by the side of PHS terminal 6 stated to below mail BOX setting processing - Step S22 and Step S50 of the service Administration Bureau 2 (telephone network 4) - Step S54 are processings for setting up the various conditions over Mail BOX, and judge first whether many setup of Mail BOX is performed in Step S10 shown in drawing 5 by the PHS terminal 6 side. It is directed by the user whether set up or not. And in performing many setup of Mail BOX, the judgment result in Step S10 serves as "YES", and progresses to Step S12. At Step S12, the various conditions set as Mail BOX are inputted. These various conditions are inputted by directing the selection branch displayed on a display 19 with the touch pen 41, or carry out a direct input from the key input section 15. Moreover, as setups, the number of times of ringing tone and a during the conversation setup which were mentioned above, a message time setup, a warning setup, etc. are set up, and it is stored in RAM18 as voice mail service system setting information.
[0026] Next, in Step S14, it sends to the service Administration Bureau 2 of a telephone network 4 automatically. Connection of a circuit transmits a set point transmitting code in Step S16. And in Step S18, this step S18 is repeated and performed until it judges whether the code from the service Administration Bureau 2 which can be set up was received and the code which can be set up is received. On the other hand, in Step S50 shown in drawing 5 , the service Administration Bureau 2 of a telephone network 4 receives the set point transmitting code from a PHS terminal, and progresses to Step S52. At Step S52, the code which can be set up is transmitted to an applicable PHS terminal. In PHS terminal 6, if the above-mentioned code which can be set up is received, the judgment result in Step S18 will serve as "YES", and will progress to Step S20. At Step S20, the voice mail service system setting information set as the service Administration Bureau 2 at Step S12 is transmitted. At the service Administration Bureau 2, while receiving the above-mentioned voice mail service system setting information and setting up the service condition of Mail BOX based on this voice mail service system setting information, it holds as voice mail service system setting information, and the processing concerned is ended. On the other hand, in PHS terminal 6, if it finishes transmitting voice mail service system setting information, it will progress to Step S22, a circuit will be cut automatically, and it will return to Step S10. Thus, since voice mail service system setting information is held not only at the service Administration Bureau 2 (telephone network 4) side but at a PHS terminal 6 side, if it can set up by the PHS terminal 6 side at any time and GUI (Graphical User Interface) is used for the setting technique, a bird clapper will not have overhead operation troublesome like before.
[0027] (b) Usually, Step S24 by the side of telephone call processing, next PHS terminal 6 shown in drawing 6 - Step S30 and Step S56 of the service Administration Bureau 2 - Step S64 According to the established state of Mail BOX, and the communication state of the other party, are the processing which performs transmission of voice mail, the processing which usually performs the change to a telephone call, and the usual telephone call, and it sets first to Step S24 by the side of PHS terminal 6. With reference to the telephone directory registered beforehand, the telephone number is directly inputted from a dial, and it sends to a dispatch place. Next, it progresses to Step S26 and judges whether there was any response from a dispatch place. On the other hand, the service Administration Bureau 2 will judge whether the mail BOX of the partner who is a dispatch place is set as compulsive voice mail in Step S56, if dispatch of PHS terminal 6 is received. Like an answering machine, compulsive voice mail holds compulsorily the telephone which received a message to Mail BOX, and is set up by setting

processing of Mail BOX in which it mentioned above. And if a partner's mail BOX is not set as compulsive voice mail, the judgment result in Step S56 serves as "NO", and progresses to Step S58.
[0028] At Step S58, a partner judges whether it is during the conversation. And when a partner is not during the conversation, the judgment result in Step S58 serves as "NO", and progresses to Step S60. At Step S60, a partner judges whether the call was answered or not. And if a partner answers read-out, it will tell that the circuit was connected with PHS terminal 6 of a sending agency. On the other hand, in PHS terminal 6 of a sending agency, the judgment result in Step S26 serves as "YES", and progresses to Step S28. And the telephone call with a partner is performed in Step S28 by the side of PHS terminal 6, and Step S62 of the service Administration Bureau 2. And if a telephone is hung up, respectively, a telephone will be cut with Step S30 and Step S64, and the processing concerned will be ended. Thus, in this example, when it sends, the mail BOX of the other party is not set as compulsive voice mail, and it is not during the conversation, either, and when also answering, the usual telephone call is performed.
[0029] On the other hand, in PHS terminal 6, when a partner's mail BOX is set as compulsive voice mail or there is no response during the conversation etc., the judgment result in Step S26 serves as "NO", and progresses to Step S32 shown in drawing 7 . Similarly, at the service Administration Bureau 2, when a partner's mail BOX is set as compulsive voice mail or there is not during the conversation or a response, the judgment result in "YES" or Step S60 serves as "NO", and the judgment result in Step S56 and Step S58 progresses to Step S66 shown in drawing 7 .
[0030] (c) The processing in Step S32 of PHS terminal 6 stated to below voice mail transmitting processing - Step S38, and Step S66 of the service Administration Bureau 2 - Step S74 is processing which performs preservation to transmission and Mail BOX of voice mail. In addition, in this state, the circuit of PHS terminal 6 and a telephone network 4 is in the state where it connected in Step S24 mentioned above. First, in PHS terminal 6, voice mail (message) is inputted through a microphone 14 in Step S32. And it progresses to Step S34 and the above-mentioned voice mail is transmitted to the service Administration Bureau 2. On the other hand, at the service Administration Bureau 2, in Step S66, the above-mentioned voice mail is received and it progresses to Step S68. At Step S68, it judges whether a partner's mail BOX is full. And if Mail BOX is not full, the judgment result in Step S68 will serve as "NO", and will progress to Step S70.
[0031] At Step S70, the voice mail which received is saved at a partner's mail BOX. At this time, the telephone number of receiving time and an addresser etc. is saved with the contents of voice mail. In addition, the voice mail reception mentioned later explains preservation of the related information of the voice mail to a destination side. Next, it progresses to Step S72, the completion of mail transmitting is transmitted to PHS terminal 6 which is a transmitting agency, and the processing concerned is ended. On the other hand, when Mail BOX is full, the judgment result in Step S68 serves as "YES", and progresses to Step S74. At Step S74, a mail invalid is transmitted to PHS terminal 6 which is a transmitting agency, and the processing concerned is ended. On the other hand, in PHS terminal 6 of a transmitting agency, the above-mentioned completion of mail transmitting or a mail invalid is received in Step S36. Next, based on the completion of mail transmitting or the mail invalid which progressed to Step S38 and received, the transmitting situation of voice mail is displayed on a display 19, and the processing concerned is ended.
[0032] B-2. Voice mail reception next drawing 8 , and drawing 9 are the flow charts for explaining the voice mail reception of this example. In drawing, Step S80 - Step S92, and step S140-146 are processings of the service Administration Bureau 2 (telephone network 4), and Step S100 - Step S106 and Step S110 - Step S122 are processings by the side of PHS terminal 6.
(a) Step S80 of the service Administration Bureau 2 (telephone network 4) which states to below voice mail arrival processing - Step S92 and Step S100 by the side of a PHS terminal - Step S106 are processings to the voice mail at the time of arrival of the mail, and judge first whether voice mail was received from other PHS terminals in Step S80 by the service Administration Bureau 2 side. And if voice mail is not received, the judgment result in Step S80 serves as "NO", and ends the processing concerned. On the other hand, if voice mail is received from other PHS terminals, the judgment result in Step S80 will serve as "YES", and will progress to Step S82. At Step S82, the voice mail which received

is saved at the mail BOX secured to PHS terminals 6 of a dispatch place. Next, while progressing to Step S84 and saving receiving time at Mail BOX, in Step S86, an addresser's (sending agency) telephone number is saved at Mail BOX. And in Step S88, it notifies having received voice mail to PHS terminal 6 of an action addressee (dispatch place). Next, in Step S90, the time which received voice mail to PHS terminal 6 of an action addressee (dispatch place) is notified, and an addresser's telephone number is notified in Step S92. And the processing concerned is ended.

[0033] On the other hand, in PHS terminal 6 by the side of an action addressee, it judges whether voice mail was received in Step S100. And when having not received, the judgment result in Step S100 serves as "NO", and ends the processing concerned as it is. On the other hand, if having received voice mail from the service Administration Bureau 2 is notified as mentioned above, the judgment result in Step S100 will serve as "YES", and will progress to Step S102. At Step S102, while saving the time which received the voice mail mentioned above at RAM18, in Step S104, an addresser's telephone number mentioned above is saved at RAM18. Next, it judges whether the voice mail which progressed to Step S106 and received is reproduced. It is directed by the user whether reproduce voice mail. And when reproduction of voice mail is not directed, the judgment result in Step S106 serves as "NO", and ends the processing concerned. Therefore, even if it is the case where it does not reproduce when voice mail is received, the receiving time of the above-mentioned voice mail and an addresser's telephone number are held at PHS terminal 6. On the other hand, when reproduction of voice mail is directed, the judgment result in Step S106 serves as "YES", and progresses to Step S110 shown in drawing 9 .

[0034] (b) Step S110 of PHS terminal 6 stated to below voice mail regeneration - Step S122, and Step S140 of the service Administration Bureau 2 - Step S146 are processings which reproduce the voice mail which received, and transmit a reproduction directions code automatically to the service Administration Bureau 2 (telephone network 4) in Step S110 with PHS terminal 6 first. On the other hand, at the service Administration Bureau 2, in Step S140, when it judges whether the reproduction directions code was received and the reproduction directions code is not received, the processing concerned is ended as it is. On the other hand, when a reproduction directions code is received, the judgment result in Step S140 serves as "YES", and progresses to Step S142. On the other hand, in PHS terminal 6, it progresses to Step S112 and judges whether the circuit was cut or not. And when the circuit is not cut (i.e., when the telephone is not hung up), the judgment result in Step S112 serves as "NO", and progresses to Step S114. At Step S114, it judges whether there is any voice mail to reproduce based on the information (refer to drawing 4 (b)) stored in RAM18 of PHS terminal 6. And when there is no voice mail which should be reproduced, the judgment result in Step S114 serves as "NO", and progresses to Step S116. At Step S116, it displays on a display 19 that there is no voice mail which should be reproduced, and the processing concerned is ended. On the other hand, when there is voice mail to reproduce, the judgment result in Step S114 serves as "YES", and progresses to Step S118. The voice mail to reproduce is chosen at Step S118.

[0035] Here, an example of the method of choosing the voice mail to reproduce is explained. When choosing the voice mail to reproduce, as shown in drawing 10 , the list of voice mail is displayed on a display 19. In drawing, the number of cases of the voice mail which received is displayed on the upper part of a display 19. In the example of illustration, "50" of a denominator shows the number which can be held to Mail BOX and which can be saved, and "50" of a molecule shows the number of cases of the voice mail which received in it. Moreover, when the voice mail which received has reached the number which can be saved, inverse video is carried out like illustration. Next, as a list of voice mail, the telephone number or name of arrival-of-the-mail time and an addresser is displayed. In addition, it is shown that the person applicable to the telephone directory beforehand registered into PHS terminal 6 is in what shows an addresser's name in a list. That is, an addresser's telephone number and the telephone number of a telephone directory are collated, and an addresser's name is displayed when both sides are the same. Moreover, the mark MK of illustration shows that applicable voice mail has reached in the maintenance term, and in the maintenance extension-of-a-deadline processing mentioned later, if extended procedure of a maintenance term is performed, it will disappear. The voice mail which reached in the maintenance term will be automatically eliminated, if extended procedure of a maintenance term

is not performed. Moreover, the list except being displayed on the display 18 can be displayed now by making a list scroll by touching the cursor 19a and 19b of illustration with the touch pen 41.
[0036] Thus, the list of voice mail which received is displayed on a display 18 as an index for reproduction. Selection of the voice mail to reproduce is performed by touching the arbitrary indexes for reproduction with the touch pen 41. Since the arbitrary indexes for reproduction can be chosen at this time, it is possible it not only to reproduce in order of reception, but to reproduce at random. Selection of the voice mail to reproduce directs the voice mail to reproduce to the service Administration Bureau 2 in Step S120 in PHS terminal 6. On the other hand, at the service Administration Bureau 2, the voice mail which was directed from PHS terminal 6 and which should be reproduced is read from Mail BOX in Step S142. Next, the voice mail progressed and read to Step S144 is transmitted to PHS terminal 6. In PHS terminal 6, in Step S122, the voice mail transmitted from the service Administration Bureau 2 is received, and it reproduces, and pronounces from a loudspeaker 13.
[0037] And in PHS terminal 6, after reproduction of voice mail is completed, it returns to Step S112. And it judges whether the telephone was hung up as mentioned above at Step S112, and when not cut, it progresses to henceforth [Step S114], and reproduction of other voice mail is repeated. On the other hand, at the service Administration Bureau 2, in Step S146, it judges whether the telephone was disconnected or not, and when not cut, it returns to Step S142 and operation of reading the voice mail directed with PHS terminal 6, and transmitting is repeated in Step S142 and Step S144. Moreover, if reproduction of voice mail is completed and a telephone is cut with a PHS terminal 6 side, the judgment result in Step S112 will serve as "YES", and will end the processing concerned. At the service Administration Bureau 2, if a telephone is cut with a PHS terminal 6 side, the judgment result in Step S146 will serve as "YES", and will end the processing concerned.
[0038] Thus, since PHS terminal 6 holds the necessary minimum information which consists of arrival-of-the-mail time of voice mail transmitted automatically [whenever voice mail is saved at Mail BOX] from the service Administration Bureau 2, and an addresser's telephone number The receiving index of voice mail can be displayed on a display 18 one by one always, without charged telephoning the service Administration Bureau 2. When it has not reached is someone's voice mail saved or a message was received in the maintenance term can check the information about voice mail.
[0039] B-3. Maintenance extension-of-a-deadline processing (a warning process is included)
Next, drawing 11 is a flow chart for explaining maintenance extension-of-a-deadline processing of this example. In drawing, Step S160 - Step S176 are processings by the side of PHS terminal 6, and Step S190 and Step S192 are processings of the service Administration Bureau 2 (telephone network 4). First, refer to the arrival-of-the-mail time of a receiving index for PHS terminal 6 in Step S160. Next, in Step S162, it judges whether based on arrival-of-the-mail time, there is any voice mail which reached in the maintenance term. And if there is nothing that reached in the maintenance term, the judgment result in Step S162 will serve as "NO", and will end the processing concerned. On the other hand, if there are some which reached in the maintenance term, the judgment result in Step S162 will serve as "YES", and will progress to Step S164.
[0040] At Step S164, it warns of the maintenance term of the voice mail which reached in the maintenance term. As an example of a display of warning, as shown in drawing 13 , while displaying the character "WARNING" which shows warning on a display 18, the arrival-of-the-mail time of the corresponding voice mail and an addresser (a name or telephone number) are displayed on it, for example. PHS terminal 6 makes it input in Step S166 whether the maintenance term of voice mail is extended. A user checks the alarm display shown in drawing 13 , touches a display 18 with the touch pen 41, or inputs whether a maintenance term is extended from the key input section 15. Next, it progresses to Step S168 and judges whether extension of the maintenance term of voice mail was directed by the user. And when extension of a maintenance term is not directed, the judgment result in Step S168 serves as "NO", and ends the processing concerned. In this case, the information about the voice mail and it which reached in the maintenance term is automatically eliminated in the service Administration Bureau 2 and a PHS terminal.
[0041] On the other hand, when extension of a maintenance term is directed, the judgment result in Step

S168 serves as "YES", and progresses to Step S170. At Step S170, the service Administration Bureau 2 (telephone network 4) is telephoned automatically. Next, it progresses to Step S172 and extension of the maintenance term of applicable voice mail is directed to the service Administration Bureau 2. If it finishes transmitting directions of extension, it will progress to Step S174 and a circuit will be cut automatically. And a processing result is made to reflect in a receiving index in Step S176. Consequently, when a receiving index displays on a display 18 next time, the mark MK mentioned above is no longer displayed. On the other hand, at the service Administration Bureau 2, it judges whether directions of extension of a deadline were received in Step S190. And the processing concerned is ended if directions of extension of a maintenance term are not received. On the other hand, when directions of extension of a maintenance term are received, the judgment result in Step S190 serves as "YES", and progresses to Step S192. At Step S192, the maintenance term of the applicable voice mail of Mail BOX is extended by predetermined days, and the processing concerned is ended.

[0042] B-4. The number adjustment processing of maintenance (a warning process is included) Next, drawing 12 is a flow chart for explaining the number adjustment processing of maintenance of this example. In drawing, Step S200 - Step S216 are processings by the side of PHS terminal 6, and Step S220 and Step S222 are processings of the service Administration Bureau 2 (telephone network 4). First, refer to the number of voice mail for PHS terminal 6 from a receiving index in Step S200. Next, in Step S202, it judges whether the number of cases of the voice mail which received has reached the number which can be saved. And if the number which can be saved is not reached, the judgment result in Step S202 serves as "NO", and ends the processing concerned. On the other hand, when the number which can be saved is reached, the judgment result in Step S202 serves as "YES", and progresses to Step S204. At Step S204, it warns of the number of cases of the voice mail which received having reached the number which can be saved. As an example of a display of warning, as shown in drawing 14 , while displaying the character "WARNING" which shows warning on a display 18, the number of cases of the voice mail which received displays the purport which has reached the number which can be saved on it, for example.

[0043] PHS terminal 6 makes the voice mail to delete specify in Step S206 while making it input whether voice mail is deleted. A user checks the display shown in drawing 14 , and specifies the voice mail deleted from the receiving index displayed as it was shown in drawing 10 , while touching a display 18 with the touch pen 41 or inputting whether voice mail is deleted from the key input section 15. In addition, you may direct only two or more one voice mail to delete. Next, in PHS terminal 6, it progresses to Step S208 and judges whether deletion of voice mail was directed by the user. And when deletion is not directed, the judgment result in Step S208 serves as "NO", and ends the processing concerned. In this case, it is not saved even if it newly receives voice mail.

[0044] On the other hand, when deletion is directed, the judgment result in Step S208 serves as "YES", and progresses to Step S210. At Step S210, the service Administration Bureau 2 (telephone network 4) is telephoned automatically. Next, it progresses to Step S212 and deletion of applicable voice mail is directed to the service Administration Bureau 2. If it finishes transmitting directions of deletion, it will progress to Step S214 and a circuit will be cut automatically. And a processing result is made to reflect in a receiving index in Step S216. That is, while deleting the telephone number of the arrival-of-the-mail time about the specified voice mail, and an addresser, the decrement of the number of cases is carried out by the specification number of cases. Consequently, when a receiving index is displayed, the display of the number of cases shown in drawing 10 is updated. On the other hand, at the service Administration Bureau 2, it judges whether directions of deletion were received in Step S220. And the processing concerned is ended if directions of deletion are not received. On the other hand, when directions of deletion are received, the judgment result in Step S220 serves as "YES", and progresses to Step S222. At Step S222, the applicable voice mail of Mail BOX is deleted and the processing concerned is ended.

[0045] Thus, in this example, the service Administration Bureau 2 will transmit the telephone number of receiving time and an addresser to PHS terminal 6 of an addressee with the receipt that there was a receiving fact, if voice mail is received. PHS terminal 6 manages the number of voice mail, a maintenance term, unread, existing **, etc. based on the telephone number of the above-mentioned

arrival-of-the-mail time which is very little information, and an addresser compared with the information managed at the service Administration Bureau 2. For this reason, with PHS terminal 6, the situation of voice mail can be checked by easy operation, without telephoning a telephone network 4 periodically. Moreover, since it warned of that when PHS terminal 6 had the voice mail which reached in the maintenance term based on the above-mentioned arrival-of-the-mail time, forgetting a check of it is lost. Moreover, since it displays on a display 18 by making the telephone number of the above-mentioned arrival-of-the-mail time and an addresser into a receiving index and enabled it to reproduce arbitrary voice mail out of it, it comes to be able to carry out random reproduction regardless of arrival-of-the-mail time.

[0046] In addition, in the example mentioned above, although only voice mail was explained, the character (text) data and image (bit map) data not only other than this but voice data may be included.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram showing the composition of radio communications systems, such as a PHS terminal by the example of this invention.
[Drawing 2] It is the block diagram showing the composition of the PHS terminal by this example.
[Drawing 3] It is the ** type view showing the appearance composition of the PHS terminal by this example.
[Drawing 4] It is the ** type view showing the information about the voice mail saved at the service Administration Bureau and the PHS terminal by this example.
[Drawing 5] It is a flow chart for explaining the voice mail transmitting processing by this example.
[Drawing 6] It is a flow chart for explaining the voice mail transmitting processing by this example.
[Drawing 7] It is a flow chart for explaining the voice mail transmitting processing by this example.
[Drawing 8] It is a flow chart for explaining the voice mail reception by this example.
[Drawing 9] It is a flow chart for explaining the voice mail reception by this example.
[Drawing 10] It is the ** type view showing the example of a display in the display by the side of the PHS terminal by this example.
[Drawing 11] It is a flow chart for explaining the maintenance extension-of-a-deadline processing by this example.
[Drawing 12] It is a flow chart for explaining the number adjustment processing of maintenance by this example.
[Drawing 13] It is the ** type view showing the example of a display of the display in the maintenance extension-of-a-deadline processing by the side of the PHS terminal by this example.
[Drawing 14] It is the ** type view showing the example of a display of the display in the number adjustment processing of maintenance by the side of the PHS terminal by this example.
[Description of Notations]
1 Net Control Station
2 Service Administration Bureau (Communication Line Management Tool)
3 Database (Storage Means)
4 Telephone Network (Communication Network)
5 Base Transceiver Station
6 PHS Terminal (Terminal, Radio Personal Digital Assistant)
7 Telephone
ANT Antenna
10 Transceiver Section (Terminal Transceiver Means)
11 Communications Control Section (Terminal Transceiver Means)
12 Speech Processing Section
13 Loudspeaker
14 Microphone
15 Key Input Section

16 Control Section (Management Tool)
17 ROM
18 RAM (Attribute Storage Means)
19 Display (Display Means)
19a, 19b Cursor
20 Time Check -- Section
31 Dial Button
32 Telephone Call Button
33 OFF Button
34 Transceiver / Extension Button
35 Response/Hold Button
36 Various Feature Buttons
37 Volume Button
38 Recording Button
40 Slide Switch
41 Touch Pen
MK Mark

[Translation done.]

* NOTICES *

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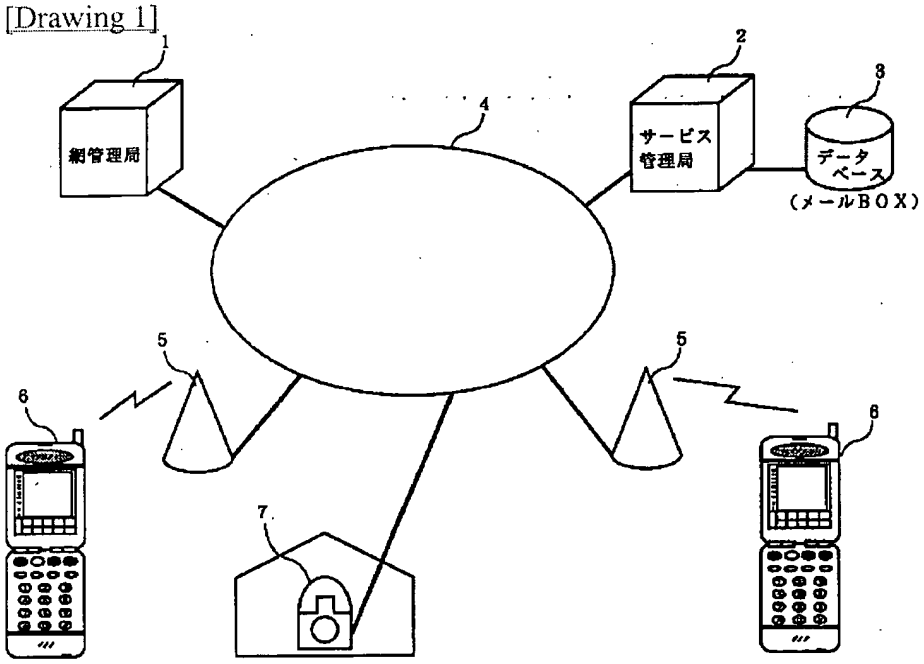
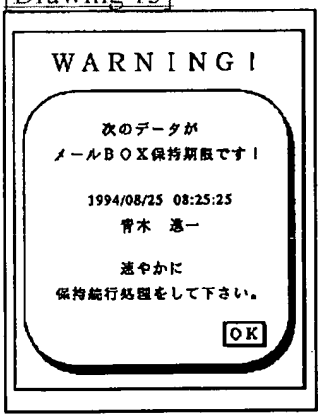
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

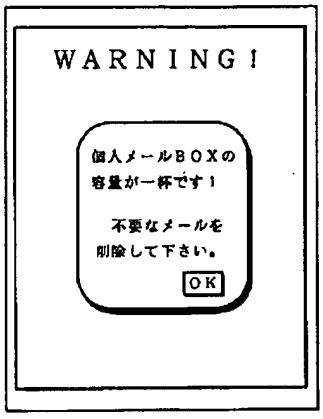
[Drawing 1]



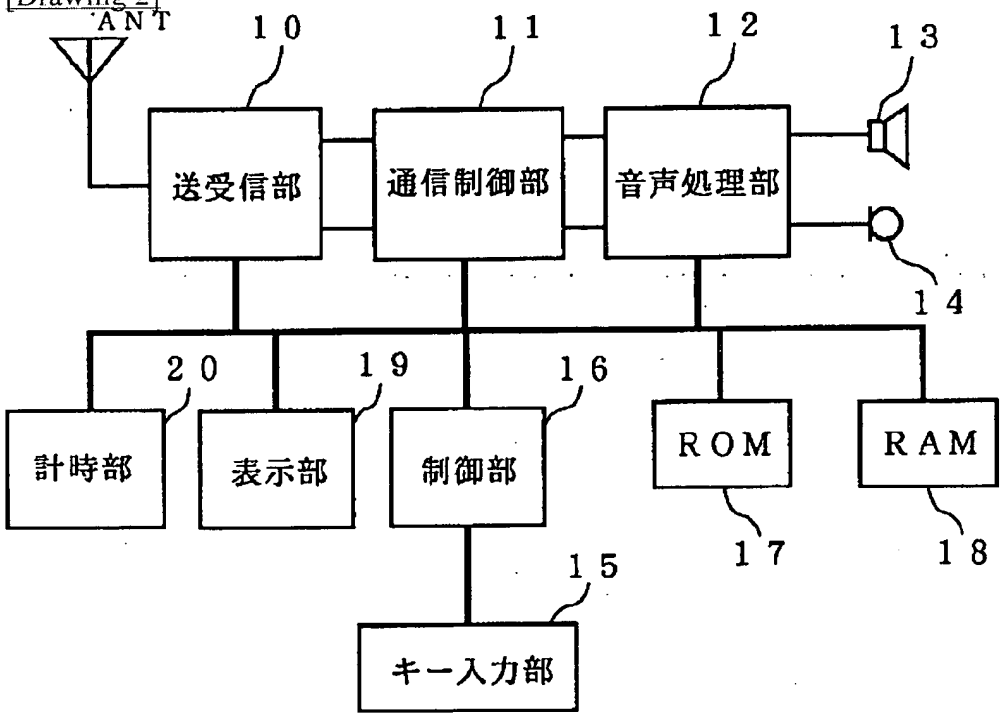
[Drawing 13]



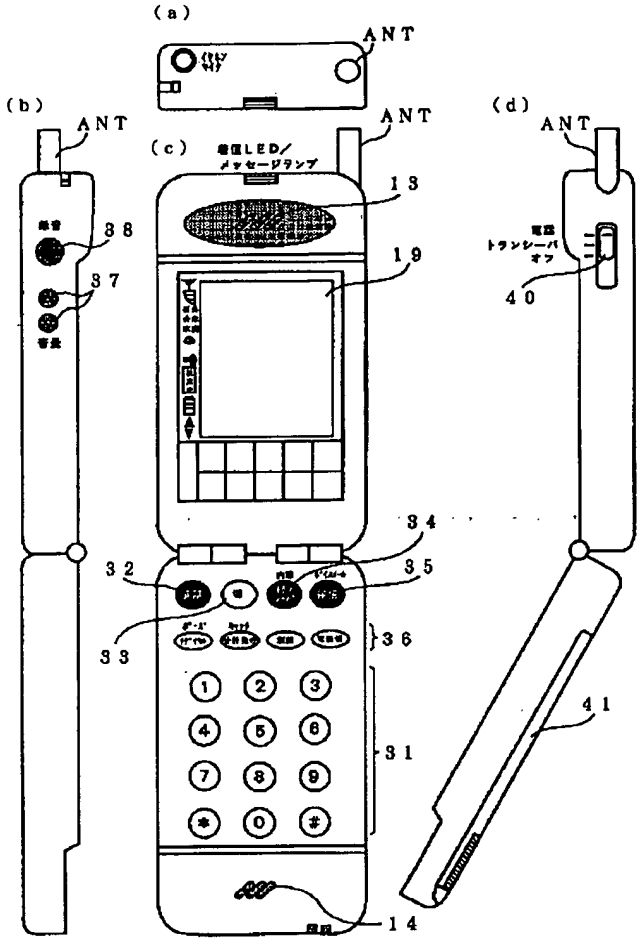
[Drawing 14]



[Drawing 2]



[Drawing 3]



[Drawing 4]

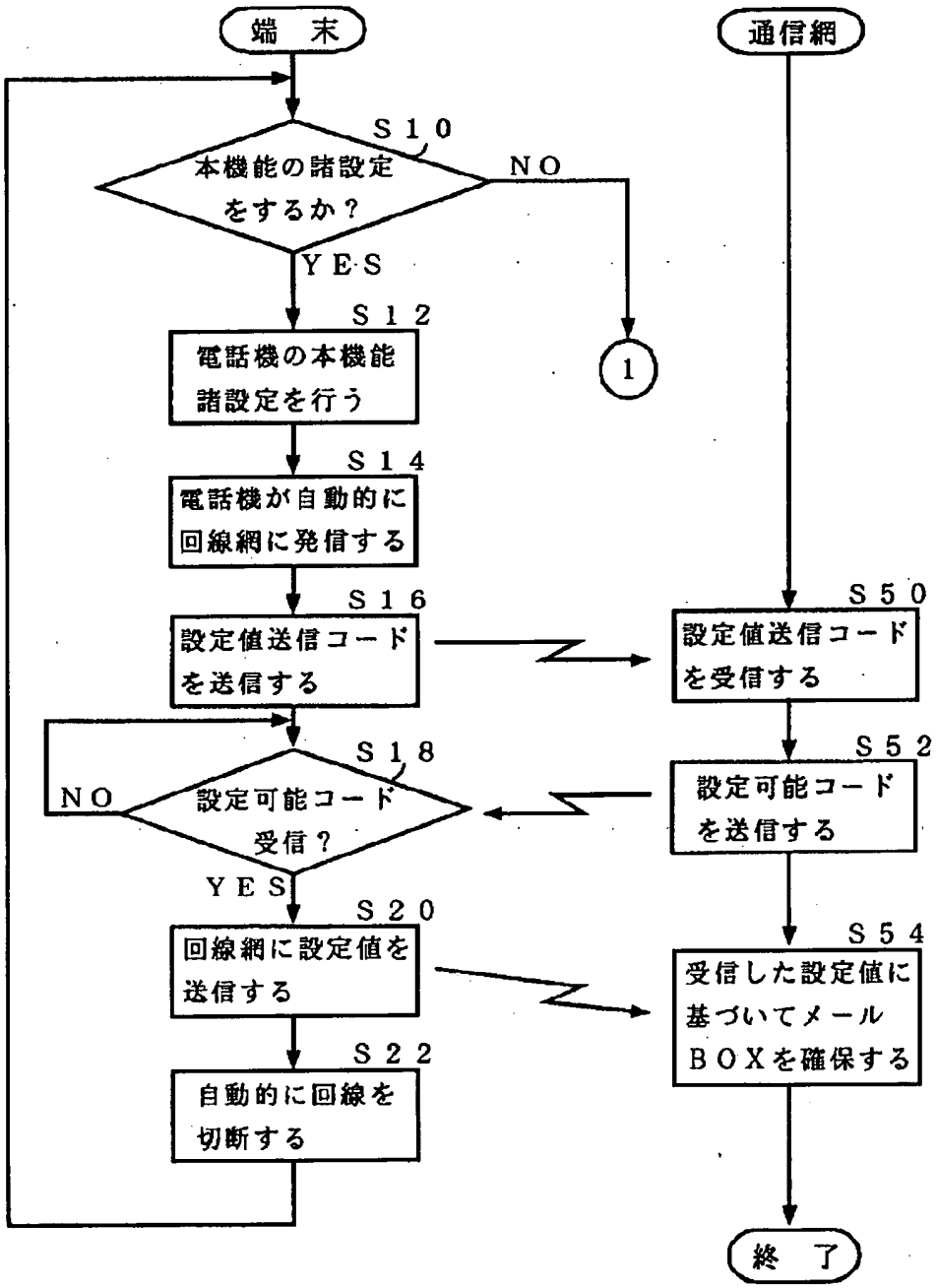
（a）

未発着保持ボイスメール （最終発信日時・相手・ 相手の状況・ボイスメール内容）
着信未読保持ボイスメール （着信日時・相手・ボイスメール内容）
着信既読保持ボイスメール （着信日時・相手・ボイスメール内容）
ボイスメールサービスシステム設定 （呼出音回数・話し中設定・ メッセージ時間設定・警告設定など）

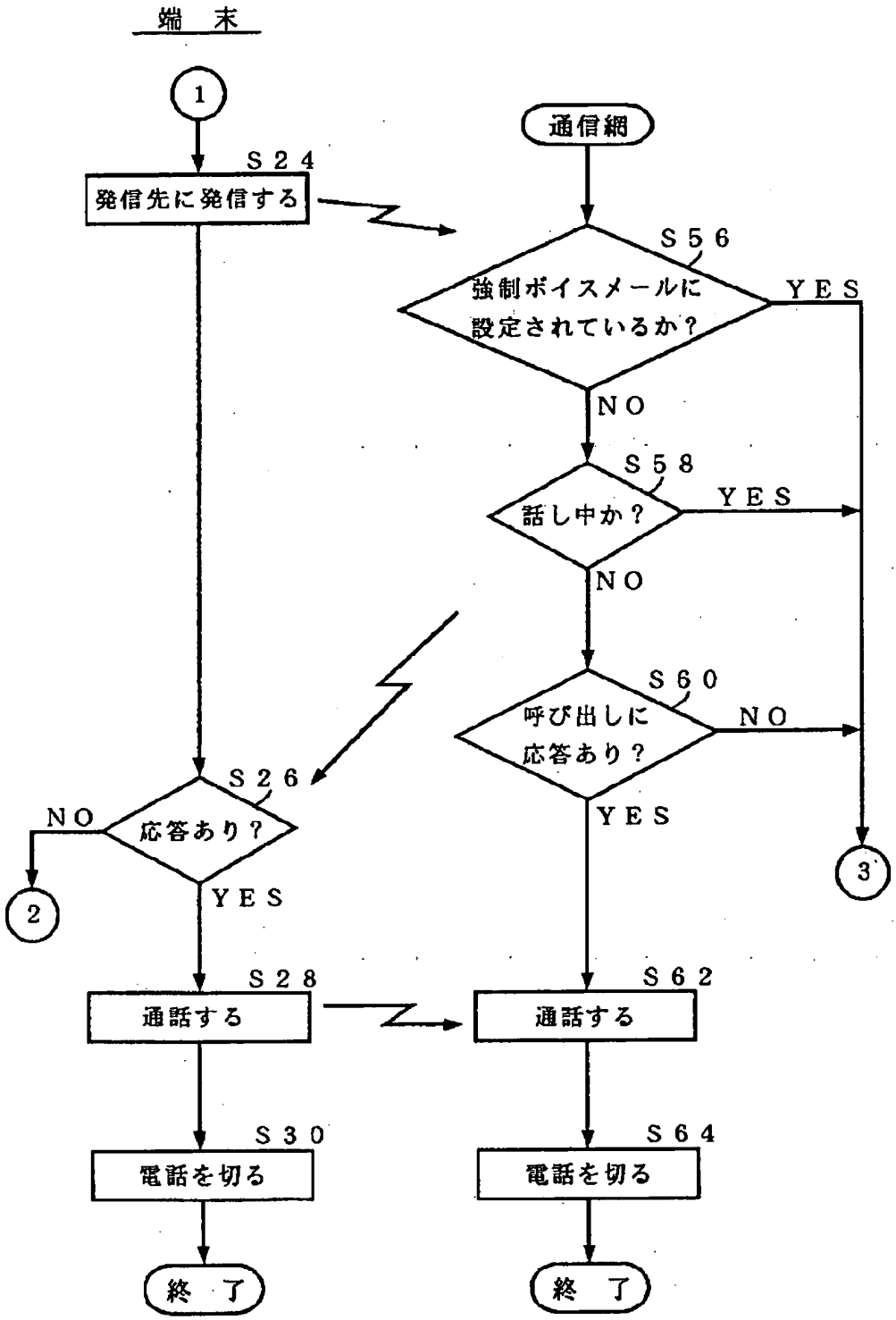
（b）

着信未読保持ボイスメール （着信日時・相手）
着信既読保持ボイスメール （着信日時・相手）
ボイスメールサービスシステム設定 （呼出音回数・話し中設定・ メッセージ時間設定・警告設定など）

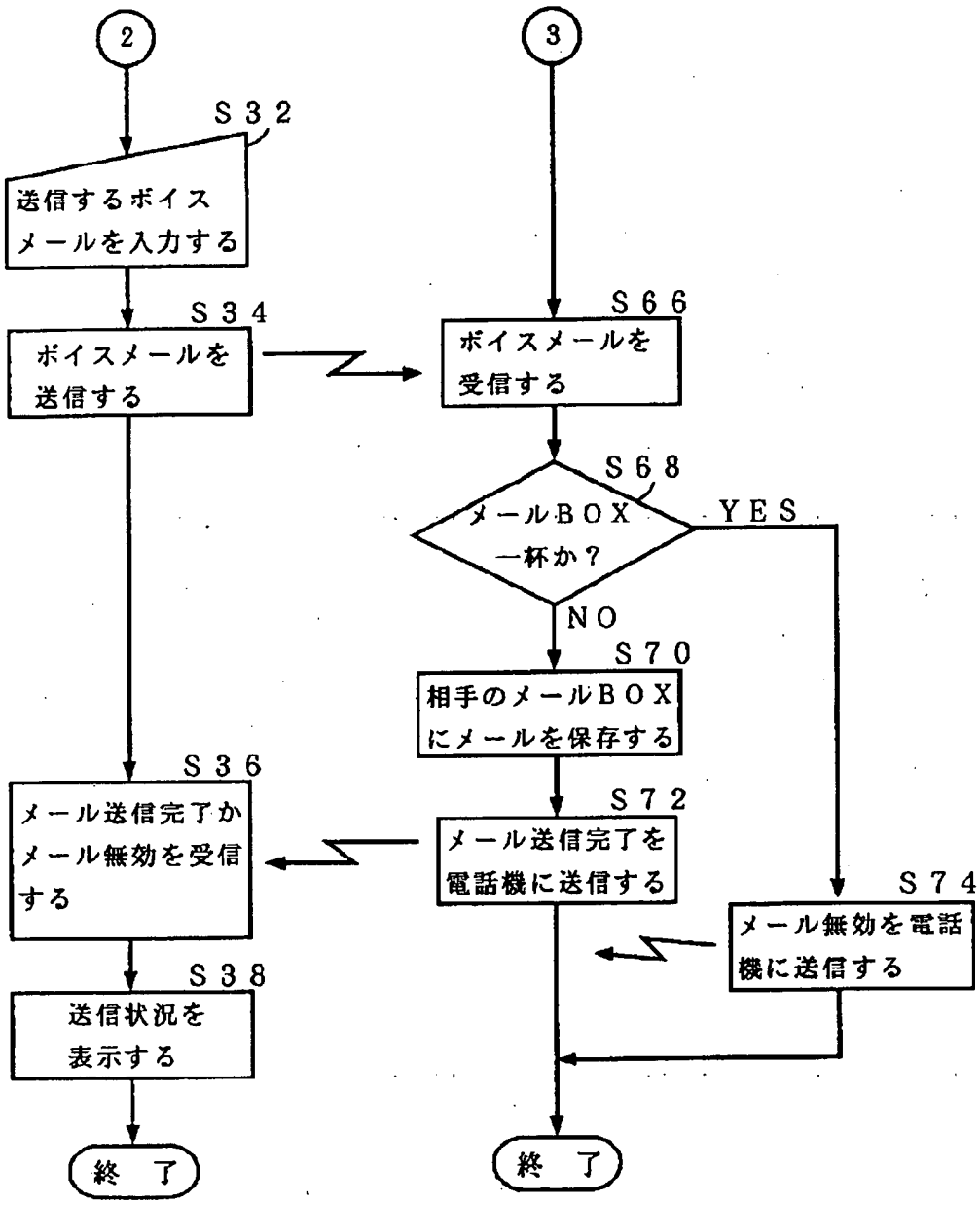
[Drawing 5]


端　末
通信網
S１０
本機能の諸設定をするか？
NO
YES
S１２
電話機の本機能諸設定を行う
1
S１４
電話機が自動的に回線網に発信する
S１６
設定値送信コードを送信する
S５０
設定値送信コードを受信する
S５２
設定可能コードを送信する
S１８
NO
設定可能コード受信？
YES
S２０
回線網に設定値を送信する
S５４
受信した設定値に基づいてメールＢＯＸを確保する
S２２
自動的に回線を切断する
終　了

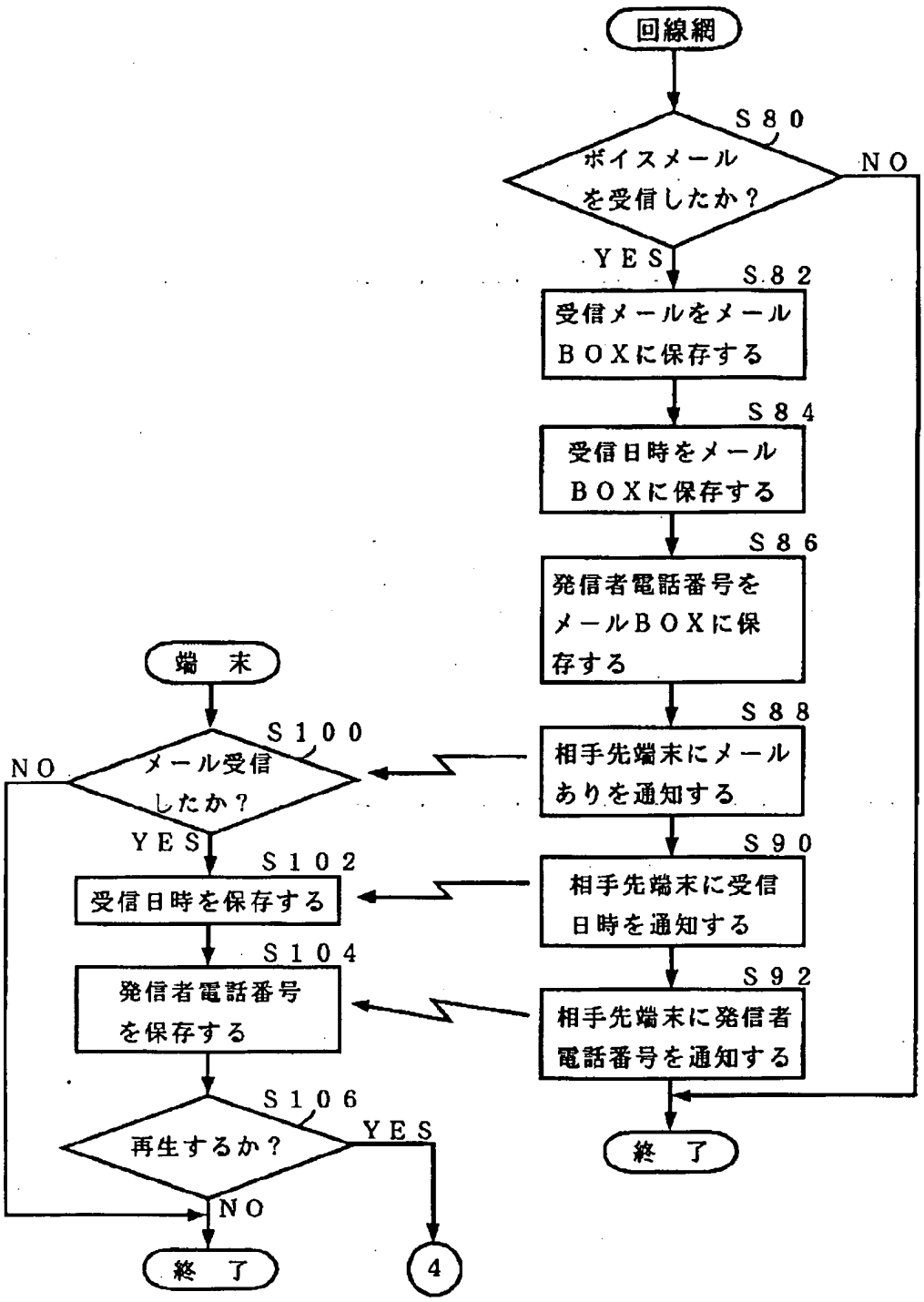
[Drawing 6]


端　末
1
S24
発信先に発信する
通信網
S56
強制ボイスメールに
設定されているか？
YES
NO
S58
話し中か？
YES
NO
S60
呼び出しに
応答あり？
NO
YES
3
S26
NO
応答あり？
YES
2
S28
通話する
S62
通話する
S30
電話を切る
S64
電話を切る
終　了
終　了

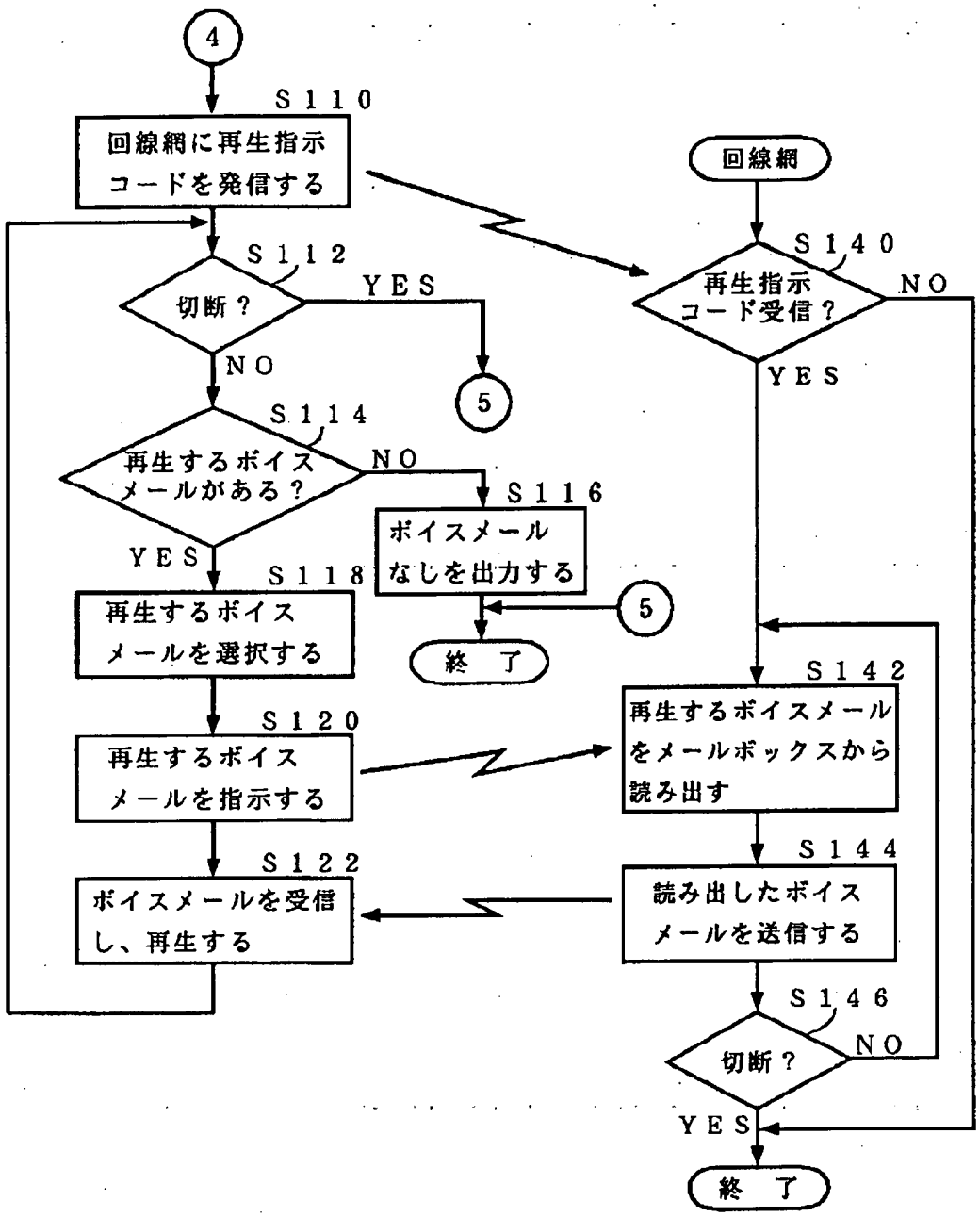
[Drawing 7]


2
3
S３２
送信するボイス
メールを入力する
S３４
ボイスメールを
送信する
S６６
ボイスメールを
受信する
S６８
メールＢＯＸ
一杯か？
ＹＥＳ
ＮＯ
S７０
相手のメールＢＯＸ
にメールを保存する
S３６
メール送信完了か
メール無効を受信
する
S７２
メール送信完了を
電話機に送信する
S７４
メール無効を電話
機に送信する
S３８
送信状況を
表示する
終　了
終　了

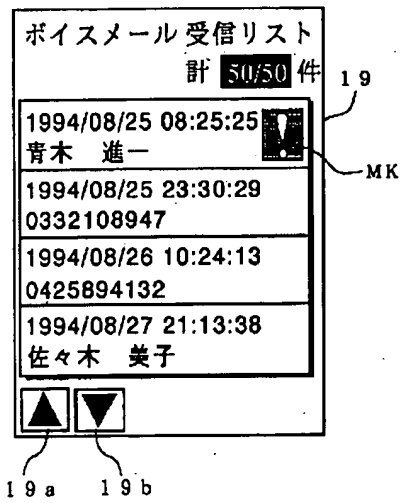
[Drawing 8]


回線網
S80
ボイスメールを受信したか？
NO
YES
S82
受信メールをメールBOXに保存する
S84
受信日時をメールBOXに保存する
S86
発信者電話番号をメールBOXに保存する
S88
相手先端末にメールありを通知する
S90
相手先端末に受信日時を通知する
S92
相手先端末に発信者電話番号を通知する
終了
端末
S100
メール受信したか？
NO
YES
S102
受信日時を保存する
S104
発信者電話番号を保存する
S106
再生するか？
YES
NO
終了
4

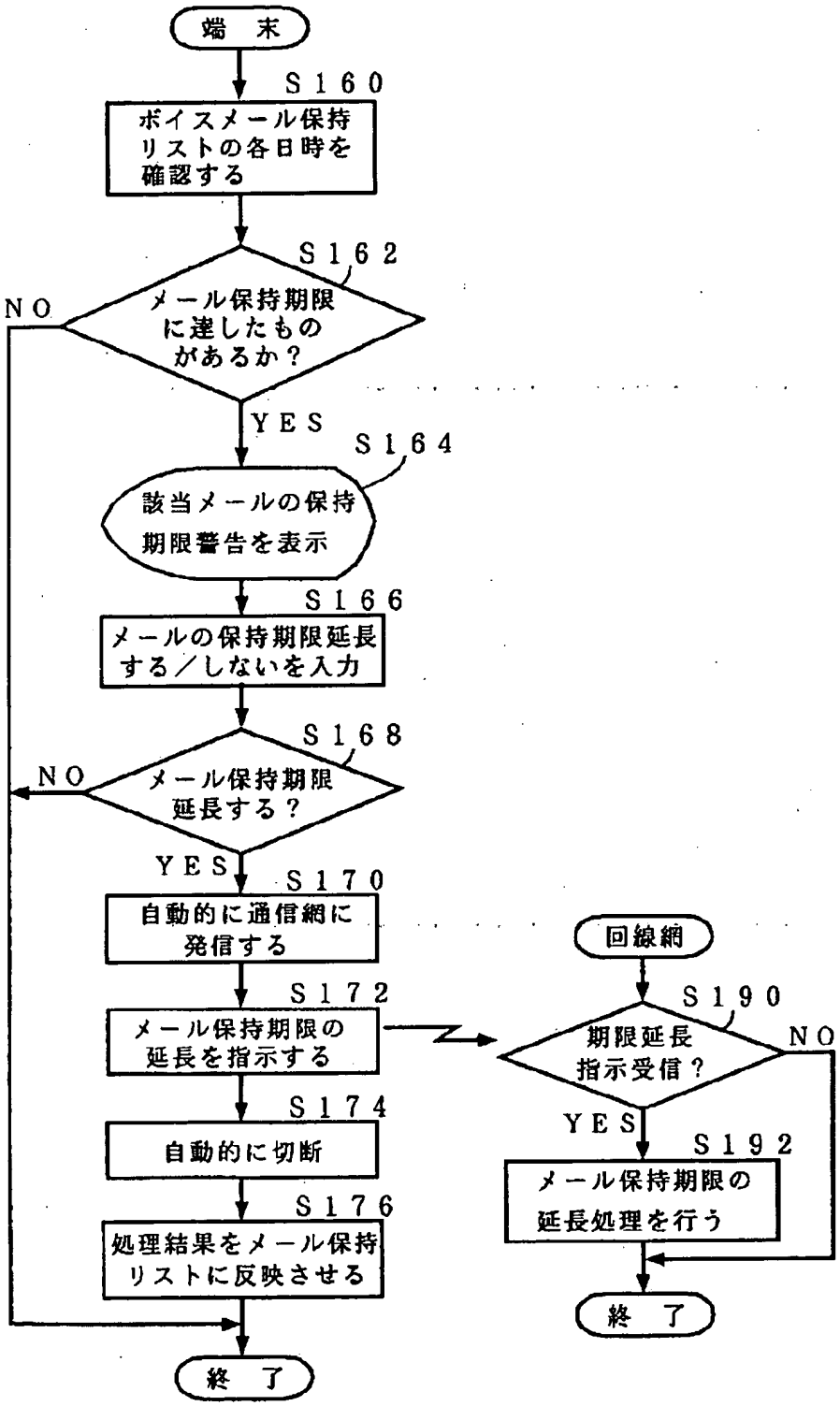
[Drawing 9]


4
S110
回線網に再生指示コードを発信する
回線網
S140
再生指示コード受信？
NO
YES
S112
切断？
YES
NO
5
S114
再生するボイスメールがある？
NO
S116
ボイスメールなしを出力する
YES
S118
再生するボイスメールを選択する
5
終　了
S142
再生するボイスメールをメールボックスから読み出す
S120
再生するボイスメールを指示する
S144
読み出したボイスメールを送信する
S122
ボイスメールを受信し、再生する
S146
切断？
NO
YES
終　了

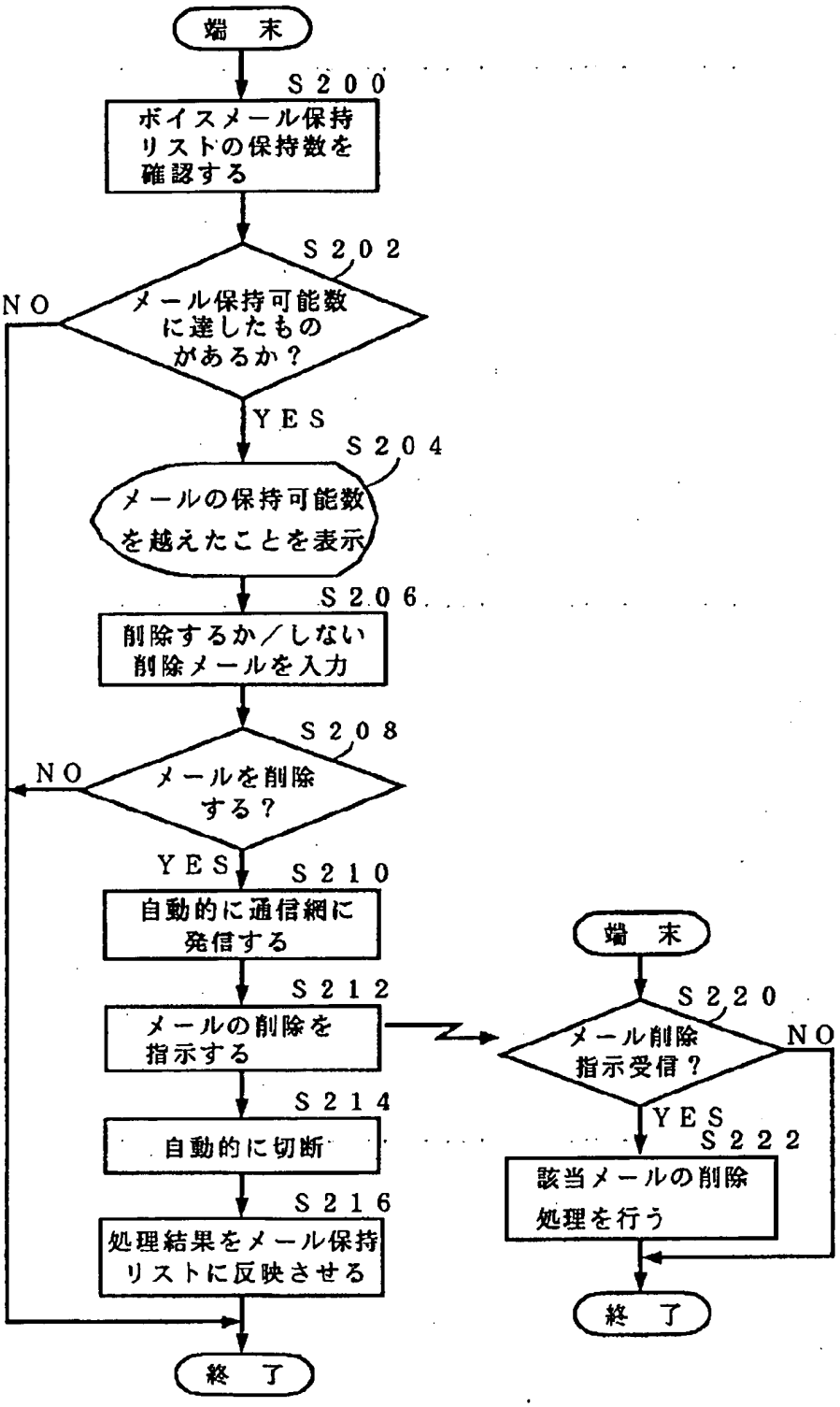
[Drawing 10]


ボイスメール受信リスト
計 50/50 件
19
1994/08/25 08:25:25
青木　進一
MK
1994/08/25 23:30:29
0332108947
1994/08/26 10:24:13
0425894132
1994/08/27 21:13:38
佐々木　美子
19a
19b

[Drawing 11]


端　末
S160
ボイスメール保持リストの各日時を確認する
S162
メール保持期限に達したものがあるか？
NO
YES
S164
該当メールの保持期限警告を表示
S166
メールの保持期限延長する／しないを入力
S168
メール保持期限延長する？
NO
YES
S170
自動的に通信網に発信する
S172
メール保持期限の延長を指示する
S174
自動的に切断
S176
処理結果をメール保持リストに反映させる
終　了
回線網
S190
期限延長指示受信？
NO
YES
S192
メール保持期限の延長処理を行う
終　了

[Drawing 12]



[Translation done.]

* NOTICES *

CORRECTION or AMENDMENT

[Official Gazette Type] Printing of amendment by the convention of 2 of Article 17 of patent law.
[Section partition] The 3rd partition of the 7th section.
[Date of issue] April 20, Heisei 13 (2001. 4.20)

[Publication No.] JP,8-181781,A.
[Date of Publication] July 12, Heisei 8 (1996. 7.12)
[**** format] Open patent official report 8-1818.
[Filing Number] Japanese Patent Application No. 6-337866.
[The 7th edition of International Patent Classification]

H04M 3/42
H04Q 7/38
H04M 1/00

[FI]

H04M 3/42 J
1/00 N
H04B 7/26 109 T
H04Q 7/04 D

[Procedure revision]
[Filing Date] February 8, Heisei 12 (2000. 2.8)
[Procedure amendment 1]
[Document to be Amended] Specification.
[Item(s) to be Amended] The name of invention.
[Method of Amendment] Change.
[Proposed Amendment]
[Title of the Invention] Communication system and an information communication terminal.
[Procedure amendment 2]
[Document to be Amended] Specification.
[Item(s) to be Amended] Claim.
[Method of Amendment] Change.
[Proposed Amendment]
[Claim(s)]
[Claim 1] In the communication system which has the storage which saves the data which should be connected to a communication network, should be transmitted from a transmitting-side terminal, and should be supplied to a receiving-side terminal
The aforementioned storage transmits the attribute of the memorized data to a receiving-side terminal.

The aforementioned receiving-side terminal manages the quantity or the retention period of the aforementioned data at least according to the received attribute.
Communication system characterized by things.
[Claim 2] The aforementioned attribute is communication system according to claim 1 characterized by being the arrival-of-the-mail time and addresser identification information of the aforementioned data.
[Claim 3] The aforementioned receiving-side terminal is communication system according to claim 1 characterized by emitting warning when the quantity of data which received reaches a predetermined value, or when the maintenance period of these data reaches in a maintenance term.
[Claim 4] The aforementioned storage will transmit the information and the aforementioned attribute of a purport where these data were saved to the aforementioned receiving-side terminal, if data are saved.
The aforementioned receiving-side terminal is communication system according to claim 1 characterized by holding the received attribute and managing the quantity or the maintenance period of the aforementioned data based on this attribute, when the information on a purport that the aforementioned data were saved is received.
[Claim 5] The aforementioned data are communication system the claim 1 characterized by being voice data, or given in four.
[Claim 6] The aforementioned receiving-side terminal is communication system according to claim 4 characterized by displaying a part of attribute which carried out [aforementioned] maintenance for every data.
[Claim 7] The aforementioned receiving-side terminal is communication system according to claim 6 with which a maintenance period is characterized by displaying a predetermined mark that that can discriminate to a user among the attributes which carried out [aforementioned] maintenance at the attribute over the data which have reached in the maintenance term.
[Claim 8] It is the information communication terminal which communicates with other terminals through a communication line.
A transceiver means to transmit and receive data between the aforementioned communication lines,
An attribute storage means to receive and hold the attribute of the aforementioned data transmitted from a communication line whenever data are transmitted from other terminals through the aforementioned transceiver means,
the aforementioned attribute held at the aforementioned attribute storage means -- being based -- the quantity of the aforementioned data -- and -- or the case where managed the maintenance period and the quantity of the aforementioned data reaches a predetermined value -- and -- or the management tool which emits warning when the maintenance period of these data reaches in a maintenance term
The information communication terminal characterized by ******(ing).
[Claim 9] The aforementioned attribute is an information communication terminal according to claim 8 characterized by being the arrival-of-the-mail time of the aforementioned data, and addresser discernment data.
[Claim 10] The aforementioned data are an information communication terminal according to claim 8 or 9 characterized by being voice data.
[Claim 11] The information communication terminal according to claim 8 to 10 characterized by having a display means to display the warning from the aforementioned management tool while indicating the aforementioned attribute memorized by the aforementioned attribute storage means by list.
[Procedure amendment 3]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0001.
[Method of Amendment] Change.
[Proposed Amendment]
[0001]
[Industrial Application] this invention relates to the communication system and the information communication terminal which deliver and receive information through the telephone line with terminals, such as a PHS terminal.

[Procedure amendment 4]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0005.
[Method of Amendment] Change.
[Proposed Amendment]
[0005] Then, this invention aims at offering the communication system and the information communication terminal which can use voice mail service effectively while it can simplify operation of a user.
[Procedure amendment 5]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0006.
[Method of Amendment] Change.
[Proposed Amendment]
[0006]
[Means for Solving the Problem] The communication system by invention according to claim 1 for the above-mentioned purpose achievement In the communication system which has the storage which saves the data which should be connected to a communication network, should be transmitted from a transmitting-side terminal, and should be supplied to a receiving-side terminal the aforementioned storage The attribute of the memorized data is transmitted to a receiving-side terminal, and the aforementioned receiving-side terminal is characterized by managing the quantity or the retention period of the aforementioned data at least according to the received attribute.
[Procedure amendment 6]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0007.
[Method of Amendment] Change.
[Proposed Amendment]
[0007] Moreover, the aforementioned attribute may be the arrival-of-the-mail time and addresser identification information of the aforementioned data like for example, claim 2 publication as a desirable mode. Moreover, it considers as a desirable mode, for example, when the maintenance period of this data when the quantity of data according to claim 3 which received the aforementioned receiving-side terminal like reaches a predetermined value reaches in a maintenance term, you may make it emit warning.
[Procedure amendment 7]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0008.
[Method of Amendment] Change.
[Proposed Amendment]
[0008] As a desirable mode, like for example, claim 4 publication moreover, the aforementioned storage The information and the aforementioned attribute of a purport where these data were saved when data were saved are transmitted to the aforementioned receiving-side terminal. the aforementioned receiving-side terminal If the information on a purport that the aforementioned data were saved is received, the received attribute is held and you may make it manage the quantity or the maintenance period of the aforementioned data based on this attribute. Moreover, the aforementioned data may be voice data like for example, claim 5 publication as a desirable mode.
[Procedure amendment 8]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0009.
[Method of Amendment] Change.
[Proposed Amendment]
[0009] Moreover, it considers as a desirable mode, for example, you may make it display a part of attribute according to claim 6 in which the aforementioned receiving-side terminal carried out

[aforementioned] maintenance like for every data. Moreover, it considers as a desirable mode, for example, you may make it the aforementioned receiving-side terminal display a predetermined mark that that can discriminate to a user on the attribute over the data with which the maintenance period has reached among the attributes according to claim 7 which carried out [aforementioned] maintenance in the maintenance term like.
[Procedure amendment 9]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0010.
[Method of Amendment] Change.
[Proposed Amendment]
[0010] Moreover, the information communication terminal to which the information communication terminal according [this invention] to invention according to claim 8 for the above-mentioned purpose achievement communicates with other terminals through a communication line is characterized by providing the following. A transceiver means to transmit and receive data between the aforementioned communication lines. An attribute storage means to receive and hold the attribute of the aforementioned data transmitted from a communication line whenever data are transmitted from other terminals through the aforementioned transceiver means. the aforementioned attribute held at the aforementioned attribute storage means -- being based -- the quantity of the aforementioned data -- and -- or the case where managed the maintenance period and the quantity of the aforementioned data reaches a predetermined value -- and -- or the management tool which emits warning when the maintenance period of these data reaches in a maintenance term
[Procedure amendment 10]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0011.
[Method of Amendment] Change.
[Proposed Amendment]
[0011] Moreover, the aforementioned attributes may be the arrival-of-the-mail time of the aforementioned data, and addresser discernment data like for example, claim 9 publication as a desirable mode. Moreover, the aforementioned data may be voice data like for example, claim 10 publication as a desirable mode. Moreover, while considering as a desirable mode, for example, indicating by list the aforementioned attribute according to claim 11 memorized by the aforementioned attribute storage means like, you may make it have a display means to display the warning from the aforementioned management tool.
[Procedure amendment 11]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0012.
[Method of Amendment] Change.
[Proposed Amendment]
[0012]
[Function] In this invention, the aforementioned storage transmits the attribute of the memorized data to a receiving-side terminal. The aforementioned receiving-side terminal manages the quantity or the retention period of the aforementioned data at least according to the received attribute. A receiving-side terminal emits warning, when the quantity of the above-mentioned data reaches a predetermined value, or when the maintenance period of data reaches in a maintenance term. Therefore, since data can be managed based on a part of attribute held to the terminal side, without connecting a circuit to a communication network one by one for an inquiry, while being able to simplify operation of a user, it becomes possible to use voice mail service effectively.
[Procedure amendment 12]
[Document to be Amended] Specification.
[Item(s) to be Amended] 0047.
[Method of Amendment] Change.

[Proposed Amendment]
[0047]
[Effect of the Invention] Since a part of attribute is transmitted to a receiving-side terminal and the quantity or the maintenance period of the above-mentioned data was managed at the receiving-side terminal based on a part of this attribute when saving temporarily at the storage in which the information which shows the attribute of the data transmitted from a transmitting-side terminal and these data was prepared by the communication network according to this invention, the following effects can be acquired.
(1) The situation of voice mail can be checked by easy operation, without telephoning a communication network periodically, since the number of voice mail, a maintenance term, unread, existing **, etc. are managed with a terminal based on the arrival-of-the-mail time and addresser discernment data which are very little information compared with the information managed with a communication line management tool.
(2) Moreover, the situation of voice mail can be checked, without carrying out complicated operation which telephones a communication network, since it warned of that by the terminal side, when there was voice mail which reached in the maintenance term, or when the maintenance number of cases of voice mail turns into a number which can be held.
(3) Moreover, since the above-mentioned arrival-of-the-mail time and addresser discernment data are displayed as a receiving index and it enabled it to reproduce arbitrary voice mail out of it, it comes to be able to carry out random reproduction regardless of arrival-of-the-mail time.
(4) Consequently, sending-and-receiving operation of voice mail, overhead operation, situation check operation of Mail BOX, etc. can be performed very simply.

[Translation done.]